Borough of Southend-on-Sea.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1908,

BY

CHARLES GRANT PUGH,

M.D. Lond., B.Sc. Lond., D.P.H. Camb., M.R.C.S. Eng., L.R.C.P. Lond.

MEDICAL OFFICER OF HEALTH;
BOROUGH BACTERIOLOGIST;
MEDICAL SUPERINTENDENT OF THE BOROUGH SANATORIUM AND SMALL POX HOSPITAL;
MEDICAL OFFICER TO THE EDUCATION COMMIITTEE.

Southend-on-Sea :
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TO THE HEALTH COMMITTEE.

Mr. Chairman and Gentlemen,

I beg to present the Annual Report on the Health of the Borough for the year 1908, as required by the Local Government Board.

I commenced duty as your Medical Officer of Health on June 22nd last in succession to Dr. J. T. C. Nash, who had been appointed Medical Officer to the Norfolk County Council, and I am consequently responsible for that portion only of the Report which has reference to the second half of the year. In accordance with the Regulations of the Local Government Board, Dr. Nash has written a short report dealing with the work of the Health Department in the earlier months, and this I have incorporated. As, however, any consideration of the vital statistics of the Borough must be of those for a complete year, I am responsible for all the statistics contained in the report.

Once more it is pleasing to have to record a diminution in the nett death rate, which this year is only 9.39 per 1,000, being the lowest yet recorded, and comparing favourably with 10.97 the corresponding figure in 1907, and with 13.03 the average for the ten years 1898—1907. Its surprising lowness can be best appreciated by comparison with 14.7 the corresponding figure for England and Wales. The death rate from all causes has steadily decreased for many years past, and it would be pessimistic to conclude that it has now reached the lowest figure possible. I think, however, it is unlikely that any further marked decrease can occur, and it would be unreasonable not to be prepared for occasional slight fluctuations brought about by unfavourable climatic or other conditions over which, though prejudicial to health, the Sanitary Authority has no control.

The zymotic death rate .66 also shows a marked decrease as compared with any former year; epidemic diarrhœa was somewhat more in evidence than in 1907, but the increased number of deaths caused thereby was more than counterbalanced by the absence of many deaths from the other zymotic diseases, especially measles and whooping cough.

The infantile mortality rate for the second year in succession is under 100 per 1,000 births, being 93.62 as compared with 94.05 in 1907, and with 142.95 the average of the previous ten years. It has to be remembered that 1907 and 1908 were not unfavourable years for infant life in so far as meteorological and epidemic influences were at work. Enquiries into these infant deaths still show errors in dieting and in management on the part of the mothers, and I am strongly of opinion that the same great benefit which has been experienced in other towns from the work of a Health Visitor would follow the appointment of a similar officer in this district. The rapid and continuous growth of the Town and the ever increasing duties imposed by the Legislature on the Sanitary Officers make it probable that within a short time the Council will have to consider the question of an increase in the number of Inspectors; the appointment of a Health Visitor would relieve the Inspectors of much work which, though more suitable for performance by women, falls to their share at the present time, and would enable them to devote more of their time to the essential duties of their office, viz. :—the prevention of nuisances and the supervision of the work-places and of the food supplies of the people.

The birth rate for the year was 19.12, and thus the almost continuous decline noted in recent years continues. Compared with 26.5 the corresponding figure for England and Wales, the rate is remarkably low, but this is probably accounted for by the smaller proportion in our population of women at the child-bearing age.

The incidence of infectious diseases upon the inhabitants continues to be markedly below that of the majority of other towns of corresponding size. The continued relative freedom of the Borough from typhoid fever is a matter for congratulation.

As regards general sanitary administration every endeavour has been made to maintain the standard of the work of the Department at the same high level of efficiency as it has attained in the past. A perusal of that portion of the Report which more particularly deals with the work of the Inspectors will show how much is done by them to ensure that the sanitation of the Borough shall be above reproach. Details of their work are of necessity brought only to the notice of the Council and its Committees, but hundreds of householders benefit each year by their conscientious labours, of the good results of which in the past, the statistics which follow afford some proof. To the tactful manner in which they perform their oft-times difficult duties much of the good feeling which exists between the public and the Health Department is due.

It is to be sincerely hoped that the Sewerage Bill promoted in the present Session of Parliament by the Corporation will pass through its various stages and receive the Royal assent at the earliest possible moment. The delay in dealing with the Sewerage question, for which neither the Council nor its officials are responsible, is much to be deplored in the interests of the future well-being and further development of the Borough. Following the passing of the Bill, the Local Government Board will presumably at once give their sanction to the proposals of the Council relative to the erection of the Dust Destructor, the necessity for the provision of which is becoming more obvious and more urgent each day. With these questions settled, the two great obstacles to the further advancement of the Borough will have been removed.

For valuable assistance and advice ungrudgingly rendered, I desire to express my gratitude to my predecessors, Dr. A. Clough Waters, now Honorary Consulting Medical Officer of Health, and Dr. Nash, to whose untiring efforts in improving the sanitary condition of the Borough while filling successively the office which I now have the honour to hold, the increasing reputation of Southend as a health resort is largely due. To my brother officials also my best thanks are due for their valuable help and co-operation at all times since my appointment.

Finally, I would acknowledge the invariable courtesy and consideration shown me by members of the Council, and more particularly by the members of the Health Committee, whose confidence it has always been my endeavour to merit. To the Chairman of the Committee, Mr. Councillor Wright, J.P., I am especially indebted for his valuable advice, support and sympathy in times of difficulty.

I am, Mr. Chairman and Gentlemen,

Your obedient Servant,

C. GRANT PUGH.
Medical Officer of Health.

15th February, 1909.

BOROUGH OF SOUTHEND-ON-SEA.

Health Committee.

November, 1908, to November, 1909.

The Mayor (Mr. Alderman Ingram, J.P.).
Mr. Alderman Francis, J.P.
Mr. Councillor Allen.
Mr. Councillor Bluck.
Mr. Councillor Bradley.
Mr. Councillor Forsyth.
Mr. Councillor Hubbard.
Mr. Councillor Nerney.
Mr. Councillor Richardson.
Mr. Councillor Wright, J.P. (Chairman).

Town Clerk (pro tem.)—
Mr. H. J. Worwood.

Honorary Consulting Medical Officer of Health—
Dr. A. Clough Waters, J.P.

Borough Engineer—
Mr. E. J. Elford, M.I.M.E.

Assistant Borough Engineer—
Mr. R. H. Dyer.

Matron of Borough Sanatorium—
Miss A. E. Thompson.

Public Health Staff.

Chief Inspector of Nuisances	W. Whur.*
Assistant ,,	E. W. Penn.*†‡
Assistant ,,	F. W. Maynard.
Clerk - - -	F. T. Webber.

Four Disinfectors.

One Laboratory Assistant.

* Associate of Royal Sanitary Institute.
† Certificate of Royal Sanitary Institute.
‡ Certificated Meat Inspector (Royal Sanitary Institute).

Medical Officer of Health—
C. Grant Pugh, M.D. (Lond.), B.Sc. (Lond.), D.P.H. (Camb.).

BOROUGH OF SOUTHEND-ON-SEA.

Physical Features and Geological Character of the District.

The Borough of Southend-on-Sea lies on the north coast of the Thames Estuary. It thus has a south aspect. During 1908 it comprised three wards and five ecclesiastical parishes. A sixth ecclesiastical parish of St. Matthew's has recently been formed out of St. Mary's, but its boundaries have not yet been communicated to me. The front of the old town in the east is situated at the sea level, but towards the west the houses on the front to which access is afforded by Pier Hill are situated on the Cliffs from 80 to 100 feet above sea level.

Generally speaking the central part of the Borough stands on high ground. The direct London Road from its junction with the Broadway (a continuation of High Street) where the level is 93.0 feet above O.D., gradually rises in a westerly direction until a level of 120 feet is reached at the junction of Leigh Road and West Road. In an easterly direction this main road falls first gradually and then rapidly to Bournes' Green, which is only 20.4 feet above ordnance datum. The London Road occupies the crest of ridge of the high ground, from which the ground slopes both north and south. The southern slope is divided into two main valleys, eastern and western.

The surface formation varies, but, generally speaking, Old Southend, Southchurch and Prittlewell have a surface soil of river gravel, while a considerable part of Westcliff is on London Clay several hundred feet in thickness.

Situation—Latitude 51° 32′ to 51° 34′
East Longitude 3° 39′ to 3° 45′

Elevation—Varies from sea level to 125 feet above ordnance datum.

STATISTICAL SUMMARY, 1908.

Acreage -	5,172
Census Population, April, 1901	28,857
Population estimated to middle of 1908	57,399
Occupied Houses, June 30th, 1908	10,831
Average number of Persons per House in 1901	5·3
Density of Population per acre in 1901	5·76
Density of Population per acre in 1908	11.1
Annual Rate of Births per 1,000 population	19.12
Nett Deaths in the Borough	539
Nett Annual Rate of Mortality per 1,000 Residents	9·39
Excess of Registered Births over Deaths of Residents	559
Zymotic Death Rate	.66
Infantile Mortality	93·6
Rainfall during 1908	18.69 inches.
Rain fell on	130 days.
The greatest rainfall month was July	3 inches.
The greatest rainfall in 24 hours was on July 12th	1.20 inches.
The least rainfall month was January	0.83 inches.
The month with fewest wet days was June	4 days.
The month with most wet days was April	16 days.
Average Annual Rainfall for previous 16 years	20.63 inches.
Deficiency of Rainfall during 1908 as compared with average for 1892—1907	1.94 inches.
Rateable Value for the Borough, 1908	£365,368
Hours of Sunshine during 1908	1,739 hours

The following table is drawn up to make possible a comparison as regards the vital statistics of 1908 between Southend-on-Sea and other Urban Districts, and England and Wales as a whole.

	Annual Rates per 1,000 Living			Infant Mortality
	Births	Deaths from all causes	Deaths from seven chief Epidemic Diseases*	Deaths of Infants under 1 year per 1,000 births
England and Wales ...	26·5	14·7	1·29	121
Rural England and Wales	26·2	14·7	99	110
76 Great Towns	27·0	14·9	1·59	128
141 Small Towns ..	26·0	14·0	1·26	124
Southend-on Sea	19·1	9·39	66	93·6

* Small Pox, Measles, Scarlet Fever, Whooping Cough, Typhoid Fever, Diarrhœa and Diphtheria.

It will from this be seen that Southend-on-Sea has a birth rate much below the average of either Urban or Rural districts. This is probably accounted for in great part by the smaller proportion of women at child-bearing ages in our population, but for reasons given later it is, so long after the census year, quite impossible in a town which has undergone such remarkable growth as Southend-on-Sea to make a correction for this disturbing factor.

The death rates are all lower than the corresponding figures for even the rural districts, which is a matter for congratulation, seeing that Southend, having attained a population of over 50,000, is now entitled to rank as one of the Great Towns.

The Southend zymotic death rates will be seen from the following table :—

Zymotic Diseases	Death Rates per 1,000 Inhabitants
Measles	·032
Scarlet Fever	·000
Diphtheria, including Membranous Croup	·157
Typhoid Fever	·052
Whooping Cough... ...	·052
Small-Pox	·000
Diarrhœa	·366

REPORT OF DR. J. T. C. NASH

as Medical Officer of Health, from January to June 22nd, 1908.

Statistics and Incidence of Notifiable Zymotic Diseases.

I will not say more with regard to statistics, etc. (which for purposes of fair comparison with former years will no doubt be dealt with by my successor for the whole twelve months) than that during the first six months of the year, speaking generally, there was nothing exceptional to note.

Schools.

With respect to School work, I made fairly full notes with regard to structural conditions at St. Helen's School and St. John's School—both Non-Provided. In consequence of my report St. Helen's School received a very necessary cleansing. I have in former reports drawn attention among others to the defects existing at London Road Schools and Brewery Road Schools. I acted on the suggestion made in the memorandum of the Local Government Board issued in November, 1907, with regard to School closure in relation to measles—adopting the method of advising closure of a particular class in one or two schools, for only five days during the second week following on the onset of the first case of measles. The suggestion is, in my opinion, a scientific and workable one, and appeared to answer admirably in the few instances in which I tried it.

I commented on it in my last Annual Report, so need say nothing further now.

Special Centre for Defective Children.

Good work was accomplished here, great credit being due to Miss Wells—the teacher in charge. Dr. Pugh will no doubt deal with this Department in fuller detail.

Mortuary.

Improvements were instituted in connection with the place which is at present used as a mortuary. The provision is far better than what obtained at the date of my first appointment in 1901; but in view of the great growth of Southend during the time I held office, it is possible that further mortuary provision may have to be considered at an early date.

Enlargement of Sanatorium.

The Local Government Board having appointed one of their Inspectors, Dr. S. W. Wheaton, to hold an Inquiry relative to a loan for this work, the same was granted, and the work was begun forthwith.

This most necessary provision will, I have no doubt, be duly appreciated by the Health Committee and its Executive Officers. The proposed additions and enlargements were duly mentioned in my last Report.

Sewage Disposal.

The scheme to which I referred in some detail in my last Annual Report was the subject of a Local Government Board Inquiry in April last, but the sanction of the Local Government Board to the expenditure had not been obtained prior to my vacating office.

Appointment of Medical Officer of Health.

Having, in April, 1908, obtained preferment by being elected to the office of County Medical Officer of Health for Norfolk, I resigned my office in Southend, giving a period of two months' notice, instead of only the one month's notice obligatory. This gave the Town Council time to appoint as my successor Dr. C. Grant Pugh, on whom now devolves the chief onus of writing the Annual Report for the year 1908. It is a matter of congratulation with me that I leave the affairs which I managed for nearly seven years in such capable hands.

The various data with regard to Housing, Sanitation, Infectious Diseases, during the first six months of the year were duly recorded, so that Dr. Pugh will have no difficulty in incorporating the facts in his report.

J. T. C. NASH, M.D.

Vital Statistics.

VITAL STATISTICS.

Population.

For reasons given in previous Annual Reports a yearly enumeration of occupied houses is necessary in order to obtain an approximate estimate of the mid-year population.

From the return presented to the Health Committee by the Surveyor in July last it would appear that the total number of inhabited buildings in the Borough, as at that time enumerated by the Dust Inspector was 10,831. Calculated on the census figures of 5.3 persons per inhabited house, the population at the mid-year was 57,399, but this estimate of the average resident population, although probably the most satisfactory that can be obtained, must under the circumstances be regarded as approximate only.

The assumption that an average of 5.3 persons still occupy each inhabited house is not above criticism, as since the last census the character of the town has undergone a very remarkable change; a large number of the houses erected in recent years are of a very different type to those formerly built; the Borough has become the place of residence of a great number of persons who are engaged during the day in the City; large hotels and boarding houses have been erected, and there is a considerable increase in the number of flats and tenement houses. For these among other reasons it is desirable that during 1909 there should be made a more complete census which would afford information as to the accuracy under present circumstances of the factor 5.3.

In considering the probable average resident population of the Borough, it is to be remembered that during the summer months there must be a considerable influx into the town of domestic servants, shop assistants, etc., who come for the season only, but who so far as statistics of infectious diseases and deaths are concerned have to be regarded as permanent residents. The same remarks apply to the thousands of persons who for short periods visit the town for health or pleasure, and though but temporary residents have to be entered in the records of mortality and disease should death or infection overtake them while sojourning in the Borough.

The resident population of the five ecclesiastical parishes is estimated to have been at the mid-year as follows :—

Parish	Inhabited Houses		Population
St. John's	2,963	...	15,702
St. Mary's	2,972	...	15,750
St. Alban's	1,946	...	10,312
All Saints	2,283	...	12,100
Southchurch	667	...	3,535
TOTALS	10,831	...	57,399

The first four ecclesiastical parishes are included in the civil parish of Prittlewell, which therefore has an estimated population of 53,864, as compared with 27,245 at the census in 1901; the population of the civil parish of Southchurch has in the same period increased from 1,612 to 3,535.

As compared with 1907 there was an increase in the number of habitable buildings of 534, while there was a decrease of nearly 30 per cent. in the number of empty buildings. The increase in the number of inhabited buildings was found to be 787; and the population is consequently estimated to have increased by 4,169; of this the "natural increase," *i.e.*, the excess of births over deaths, accounts for 559, the remaining 3,610 being due to the number of new residents in excess of those leaving the Borough.

Density of Population.

The area of the Borough is 5,172 acres, giving a density of 11.1 per acre, as compared with 5.76 in 1901.

Births.

The number of births registered in the Borough during the year was 1,098; of these 551 were males and 547 females. There were 28 illegitimate births, giving a rate of 2.55 per cent. as compared with an average rate of 2.66 per cent. during the last ten years.

The birth rate continues to decrease, being for the year 19.12 per 1,000, a decrease of .26 per 1,000 as compared with last year, of 7.32 per 1,000 as compared with 1898, and of 4.78 per 1,000 as compared with the average of the ten years 1898—1907.

The number of births, and the birth rate for the different parishes, are shown in the following table:—

Parish	Population	No. of Births	Rate per 1000
St. John's	15,702	223	14.20
St. Mary's	15,750	317	20.12
St. Albans	10,312	173	16.87
All Saints	12,100	303	25.04
Southchurch ...	3,535	82	20.31

Deaths.

Five hundred and nineteen deaths were registered in the year as having occurred in the Borough, giving a death rate of 9.04.

Of these deaths, however, twenty were of non-residents, persons who came into the Borough on account of sickness or infirmity and who died in public institutions here; these deaths should consequently be deducted, but, on the other hand, there should be added forty deaths, that number of residents having died outside the Borough in institutions to which they had resorted on account of illness, etc. The nett deaths belonging to the Borough were consequently 539, giving a death rate of 9.39, the lowest ever recorded, comparing with 10.97 in 1907 and 13.03 the average for the ten years 1898—1907. As will be seen from Table I., notwithstanding that the estimated population has increased by over 15,000 since 1904, the actual number of deaths was less than were recorded in that year or in 1906 or 1907.

It is obvious that the official method of estimating the death rate of a town is very unfair to health resorts; large numbers of incurable invalids arrive in the town in an endeavour to prolong their lives, and unless such persons die in a hospital or public institution for the sick their deaths have to be recorded as having occurred among the residents even though their stay in the town has lasted a few weeks only; such cases account for a large proportion of the deaths from phthisis which have to be recorded, and for quite a large number of those resulting from cancer, bronchitis, and other affections of the aged. Deaths of temporary residents, summer visitors, etc., whether as the result of accident or illness have also to be included in the returns and serve to increase the number credited to the Borough. It is gratifying consequently to be able to record a death rate of 9.39, the extraordinary lowness of which will be appreciated by comparison with 14.7 the corresponding figure for England and Wales, 14.9 for the seventy-six great towns, and 14.0 for the 141 smaller towns, and 14.7 for the rural districts.

It is impossible, however, to make a just comparison of the figures for several areas, unless a correction is made for the varying proportion in these areas of persons of different ages and sexes. As Southend has increased so markedly in size and so altered in character as a residential town since the last census, any correction based on the figures then obtained as to the number of inhabitants at the different age periods must be looked upon as being approximate only, as it is necessary to assume that at the present time the proportion at the different ages remains the same as in 1901. My predecessor, making this assumption, calculated that if the age and sex constitution of the local population at the present time was the same as that in England and Wales generally at the time of the census, the number of deaths which would occur would be 1.056 times the number which actually do occur with the present age and sex distribution. Applying the factor we get a "corrected" death rate of 9.916, the corresponding figure for England and Wales being 14.7, for the seventy-six great towns 15.8, for the 142 smaller towns 14.7, and for the rural districts 13.8.

Ages at Death.

Of the 539 deaths, 101 were of infants under one year of age, which, with two exceptions, is a smaller number than has been recorded in any year since 1898, although the number of births has in the interval increased from about 600 per annum to nearly 1,100.

At the other extreme of life there died 160 persons aged 65 or over; of these 51 were between 65 and 70
39 ,, ,, 70 ,, 75
33 ,, ,, 75 ,, 80
18 ,, ,, 80 ,, 85
14 ,, ,, 85 ,, 90
and 5 were over 90

Uncertified Deaths.

Thirty deaths were registered during the year without a certificate of cause of death by Medical Practitioners or an inquest being held. This gives a percentage of 5.56, which compares unfavourably with the majority of towns similarly circumstanced, and also with the corresponding figure for England and Wales as a whole. The proportion of uncertified deaths in the Borough has always been unduly high, averaging in recent years 5.2, and has been the subject of comment in previous reports.

These deaths are not I understand registered by the Registrar until the Coroner after reviewing the circumstances has decided that no inquest is necessary. Seeing, however, that the absence of a Medical Certificate of the cause of death denotes in these cases that the deceased were not attended in their last illness by a doctor, it is a matter of regret that no fewer than eight of these cases were infants under one year, and in three other cases children under five.

Inquests.

Eighteen deaths, as to the causes of which a Coroner's inquest was held have to be recorded :—

SUICIDES.

By Shooting	1
By Drowning	1
Cut Throat	1

FOUND DEAD.

Overdose of Drugs	1
Want of Attention at Birth	1
Drowning	5

ACCIDENTS.

Fall	1
Crush	1
Suffocation through overlying	2
Drowning	2
Kick by a Horse	1
Run over by a Motor Trailer	1

Infantile Mortality.

As before mentioned, 101 deaths of infants under one year of age were registered as belonging to the Borough; this gives an infantile death rate of 93.62 per 1,000 births, which is a slight improvement on 94.05 the figure for last year, which was up to that time the lowest ever recorded in the Borough. Thus for two years in succession the infantile mortality rate has been under 100, which is all the more gratifying when it is remembered that the average rate for the previous ten years had been 142.95 per 1,000. The low rate is doubtless accounted for in great part by the markedly diminished prevalence of epidemic diarrhœa as compared with former years, together with the small number of deaths of infants from the other zymotic diseases, especially measles and whooping cough.

Of the 101 deaths, eight were uncertified by a Medical Practitioner or by the Coroner, the deaths in these cases being attributed to :—

Premature Birth	2
Fits	3
Diarrhœa	1
Congestion of Lungs	1
Congenital Debility	1

In three cases inquests were held, the cause of death being found to be suffocation through overlying by mother in two cases and want of attention at birth in the remaining case where the dead body of a newly born child was found on the foreshore.

Particulars of the deaths of infants are given in Table V., from which it will be seen that sixty-four infants died in the first three months of life; twenty-three were between three months and six months of age, eight between six and nine months, and six between nine months and a year.

Thirteen of the infants lived for less than twenty-four hours, twenty-two for less than a week, and forty-two for less than a month. The majority of these early deaths were due to conditions which, operative before birth, are of an obscure and complicated character, and over which a Sanitary Authority has little or no control. Eighteen deaths were attributed to premature birth, which cause of death, strange to say, was, proportionately to the number of births, twice as frequent in the parish of St. Mary's than elsewhere in the Borough; for this there does not appear any adequate reason; there are practically no industrial occupations in which women are employed, and the inhabitants of the parish compare favourably with those of other parts of the Borough as regards home surroundings, etc. One death occurred from injury at birth, and of the seven deaths from congenital defects, heart disease and spine bifida each caused two, and atelectasis pulmonum, jaundice and imperforate anus one each. The majority of the eleven deaths from marasmus and debility also come under this antenatal group, as also do at least three and probably more of the deaths attributed to convulsions.

Of the so-called "preventible" deaths, two were due to whooping cough, nineteen to epidemic diarrhœa, six to various forms of enteritis, four to tuberculosis, two to overlying, one to want of attention at birth, and one to congenital syphilis. Pneumonia caused four, bronchitis eight, and various other diseases seven deaths.

Enquiries were made into each of the deaths as to the methods of feeding, etc., adopted. The particulars thus obtained merely confirm the experience of previous years that the mortality amongst breast-fed infants is much less than in those hand-fed; of seventy-four children who survived a week but who died within a year of birth, and of whom particulars are available, twenty-four only were breast-fed; twenty-nine were taking cows milk only, and twenty-one condensed milk only, three of the former and two of the latter also having patent foods of various kinds.

Forty-two per cent. of the infants were insured.

Pamphlets dealing with the feeding and care of infants are handed by the Registrar to the parents at the time of the registration of birth, and these may be useful to some extent. The enquiries made after each death also doubtless have some educational influence upon mothers as to the proper care of infants. It is, however, a matter of regret to find in spite of this having been continued for several years that many of the children whose deaths have occurred during the year were being improperly fed, and that quite a large proportion of the feeding bottles were of the long-tube variety, the use of which, owing to the impossibility of efficient cleansing, is doubtless the cause of many of the digestive troubles of infants.

The Notification of Births Act has not yet been adopted, further consideration of the matter having been postponed by the Health Commitee until information is obtained as to the working of the Act elsewhere.

Many of the deaths of infants are doubtless due to the ignorance of the parents, and possibly a few are the more or less remote results of neglect; the injurious effects on the public health of the improper feeding and management of children are not to be measured solely by the number of the deaths, important as the latter are in view of the steadily declining birth rate; how much of the illhealth of the later years of life is due to such errors has not hitherto been sufficiently appreciated by parents who appear to be entirely ignorant of these after-effects except perhaps in cases where rickets develops with consequent unshapely limbs. It is, however, to be hoped that with the carrying out of the Medical Inspection of School Children parents will become more alive to the importance of the hygiene of infancy and childhood.

The distribution of pamphlets and of booklets on the subject is possibly of some value, but these are probably only read by the more intelligent parents who are already aware of the importance of the points dealt with, and who are keenly solicitous as to the welfare of the children. The results obtained cannot in my opinion compare with those likely to accrue from the appointment of a tactful Lady Health Visitor, whose visits to the homes in the poorer districts of the Borough would not only tend to the greater cleanliness of many of the children, but would have a great educational effect upon the parents in emphasising the care necessary in feeding and management.

Deaths from Zymotic Diseases.

To the principal zymotic diseases, viz. :—small pox, scarlet fever, diphtheria, "fever," measles, whooping cough, and diarrhœa thirty-eight deaths were attributed, giving a zymotic death rate of .66 per 1,000 living, which compares favourably with 1.29 the figures for England and Wales, 1.59 for the seventy-six larger towns, 1.26 for the 142 smaller towns, and .99 for the rural districts. Last year's corresponding figure was .80; the lower rate this year in spite of the increased number of deaths from diarrhœa is to be attributed to the fact that whooping cough and measles were less prevalent, causing three and two deaths only respectively, as compared with twenty and seven in 1907.

The following table gives the zymotic death rate for the last ten years, from which it will be seen that 1908 has the lowest figure during that period :—

Year		Zymotic Death Rate	Year		Zymotic Death Rate
1899	...	1.45	1904	...	2.24
1900	...	1.14	1905	...	1.25
1901	...	3.05	1906	...	1.73
1902	...	1.91	1907	...	.80
1903	...	.81	1908	...	.66

Deaths from Cancer.

Thirty-two deaths of residents in the Borough were registered as having been due to malignant disease in one of its various forms, nineteen being of women and thirteen of men; the death rate was consequently .56 per 1,000 inhabitants. Of these three died in Rochford Workhouse Infirmary, to which they had been removed during the later stages of their illness. The following table shows the number of deaths and the death rate from cancer for each of the last ten years. The marked decrease this year is probably only an accidental circumstance.

Year	Estimated Population	Total Deaths	Deaths per 1,000 Population
1899	24710	16	·64
1900	27721	17	·61
1901	29793	22	·73
1902	33537	32	·92
1903	37283	27	·72
1904	41944	30	·71
1905	46380	41	·97
1906	50302	47	·93
1907	53283	51	·94
1908	57399	32	·56

Four of the deceased were between the ages of 15 and 25, one between 30 and 40, two between 40 and 50, eight between 50 and 60, eight between 60 and 70, six between 70 and 80, and three over 80.

The four younger cases were of sarcoma, the form of malignant disease which is prone to attack young people. The remaining cases were of cancer, the organs implicated being the liver in five cases, the bowels in fourteen, the ovary in one, the stomach in two, the breast in two, the uterus in three, and the tonsil in one.

In six cases at least the deceased came to reside in the town after the disease had developed, so these deaths are not strictly speaking those of residents though they have to be included in the statistics.

In several instances, at the request of residents, doubtless impressed by what they have read in the lay papers concerning "cancer houses" and the microbic theory of the origin of cancer, the rooms occupied by the patient have been disinfected by the Health Department.

THE INFECTIOUS DISEASES.

THE NOTIFIABLE INFECTIOUS DISEASES.

Six notifications of Phthisis, which is a voluntarily notifiable disease in this Borough, were received during the year, together with 300 notifications of the compulsorily notifiable diseaes; of the latter 29 were of typhoid fever, 169 of scarlet fever, 81 of diphtheria, two of membranous croup, and 19 of erysipelas. Three of the typhoid fever, two of the scarlet fever, and one of the diphtheria notifications were subsequently withdrawn by the practitioner notifying, the subsequent course of the illness not confirming the original diagnosis. Two of the patients notified to have diphtheria proved later to be suffering from scarlet fever only, while one was found to have both diseases co-existent. One patient suffering from erysipelas was notified by two medical practitioners. The figures thus corrected are shown in the following table, which gives the number of cases of each disease that occurred in the different months of the year :—

NOTIFIABLE DISEASES.

	Scarlet Fever	Diphtheria and Membranous Croup	Typhoid Fever	Puerperal Fever	Erysipelas	Phthisis
January ...	12	5	3	1	2	—
February ...	9	3	1	—	1	—
March ...	15[a]	3[a]	1	—	2[c]	1
April ...	10	3	—	—	1	3
May	18+1[w]	4	—	—	—	—
June ...	15	15	—	—	1	1
July ...	20	8	3	—	1	—
August ...	19	8	3	1	1	1
September	13[b]+1[w]	5	2+3[w]	—	2	—
October ...	19	6[b]	6	—	—	—
November ...	11	10+1[w]	5	—	4	—
December ..	9	9	2	—	3	—
Total No. of Cases	170	79	26	2	18	6
Corrections	+2[w]—2[a]—1[b]	+2[a]+1[w]+1[b]	+3[w]	—	+1[c]	—
Total No. of Notifications	169	83	29	2	19	6

a—Two cases notified as Diphtheria are placed in Scarlet Fever Column because they were found later to be suffering from that disease only.

b—One of the patients notified as Diphtheria proved to have both Scarlet Fever and Diphtheria and is consequently placed in Scarlet Fever Column.

c—One of these patients was notified by two doctors.

w—Subsequently withdrawn by doctor notifying.

Tuberculosis.

Deaths.

Seventy-five deaths from tuberculosis in its various forms have to be recorded among the "residents" in the Borough during the year; of these sixty-one died from tuberculosis of the lungs (phthisis), the disease in the remaining cases being diffuse in five cases, and affecting the hip joint in one case, the lymphatic glands in one case, the peritoneum in one case, the bowels in three cases, and the membranes of the brain in three cases.

Of the sixty-one deaths from phthisis, eight occurred in the Workhouse Infirmary at Rochford, the patients having been admitted to that Institution in the later stages of the disease.

The number of deaths recorded each year during the last decennium and the number of deaths per 1,000 of the inhabitants are shown in the following table :—

TUBERCULOSIS.

Year	Estimated Population	Deaths from Phthisis	Deaths from other forms of Tuberculosis	Total deaths from all forms of Tuberculosis	Deaths from Phthisis 1000 Population	Deaths from all forms of Tuberculosis per 1000 Population
1899	24710	32	?	?	1·29	?
1900	27721	21	13	34	·75	1·22
1901	29793	32	24	56	1·07	1·71
1902	33537	30	16	46	·89	1·37
1903	37283	33	16	49	·88	1·31
1904	41944	50	21	71	1·19	1·69
1905	46380	52	24	76	1·12	1·63
1906	50302	50	29	79	·99	1·57
1907	53283	63	25	88	1·18	1·65
1908	57399	61	14	75	1·06	1·30

Imported Cases.

Enquiries were in every case made after death as to the history of the illness, and as to the precautions adopted during life to prevent the spread of infection. As a result, it is to be noted that no fewer than twenty-eight at least out of the sixty-one deaths from phthisis were of persons who were already suffering from the disease when they came to live in the Borough, and who in the majority of the instances had taken up their residence in the town with a view to the prolongation of life; some of these persons were evidently very ill on arrival, as in eleven instances death took place within three months, but as they did not die in a public institution in the Borough their deaths have to be added to the Borough statistics.

Precautions Taken by Patients.

Enquiries as to the precautions adopted to prevent the spread of infection show that of the fifty-three persons who died of phthisis in the Borough the patient occupied a separate bedroom in thirty-four instances only, the others sharing the bedroom with, and with few exceptions sleeping in the same bed as, presumably healthy persons.

As regards the disposal of the expectoration, twenty-four were provided with more or less suitable flasks, cups, etc., eleven used Japanese handkerchiefs, paper cornets, or rags, these articles being subsequently burnt; no particulars were obtained in two cases, while in the remaining sixteen cases no provision to prevent infection of others by the expectoration was apparently made; two of the patients died from hæmorrhage from the lungs in an early stage of the disease, so may not have been expectorating, but it is a matter of surprise that such a large proportion of the patients should have been even in the later stages of the disease without suitable receptacles for their expectoration seeing the great stress that has been rightly laid in recent years on the necessity for this obviously most important precaution.

Voluntary Notification.

Pulmonary tuberculosis with expectoration containing tubercle bacilli was made a voluntarily notifiable disease in the Borough in October, 1905, a fee of 2s. 6d. being allowed for each notification providing the patient was not moribund.

Only a very small proportion of the cases are, however, notified, as will be seen from the table given below :—

Year	Deaths from Phthisis	Notifications Received
1908	61	6
1907	63	8
1906	50	8
1905	52	13

The greater number of those notified have been fairly well-to-do patients who are leading more or less invalid lives, and have arrived in the town with the object of prolonging life; many have been in Sanatoria or have been in-patients in Consumption Hospitals where they have learnt the necessity for care in the disposal of their expectoration; very few early cases have been notified, while it is exceptional for a notification to be received relating to an unimported case.

From the above it will be seen that voluntary notification must in this Borough be regarded as a complete failure, as no information is obtained by its means of the only cases of which it is important that the Health Department should have knowledge, viz. :—patients in the poorer districts, and those not adopting the necessary precautions. Although over forty doctors are practising in the town only three or four have sent in notifications, which is not on the whole surprising, seeing how little the Sanitary Authority has been able in the past to do for these patients. When a notification is received the patient is visited, the sanitary condition of the house is inspected, a pamphlet dealing with the precautions necessary is left, and from time to time further visits are paid with a view to ensuring that these precautions are being observed.

The Public Health (Tuberculosis) Regulations, 1908, came into force on the 1st January, 1909, and provides for the notification to the Medical Officer of Health of cases of phthisis occurring among persons attended by District and Poor Law Infirmary Medical Officers and intimation of any change of address of persons so notified. This will doubtless prove of very great service in preventing the spread of infection among the poorer classes of the community and is a step in the right direction, especially as regards the clause enabling Sanitary Authorities to provide expectoration flasks or other utensils for those unable to afford them. Needless to say, great care will have to be exercised to prevent any action on our part causing a person so notified to suffer therefrom as regards his employment or in any other manner.

Disinfection.

Disinfection of the bedrooms is offered in the case of every death from phthisis and is almost invariably gladly accepted; every endeavour is also made to ensure that the rooms occupied by a phthisical patient are disinfected on his removal to another address, and it is gratifying to find how many applications for disinfection under these circumstances are received from the inhabitants, it being obvious that the wisdom of this course is now becoming appreciated by the public.

Necessity for Sanatoria.

If any serious effort is to be made to stamp out tuberculosis from the community, it is obvious that it is essential to provide Sanatoria for the treatment not only of those in the early stages of the disease but also of the advanced cases which with profuse expectoration laden with tubercle bacilli are of necessity far more dangerous to the public health. The Poor Law Infirmaries as at present conducted do not meet the requirements, many phthisical patients objecting to resort thereto, owing partly to the stigma of pauperism and partly to the restrictions necessary in such institutions.

The enquiries made during the year into fatal cases show that nearly all the deceased who had been taking efficient precautions to prevent the spread of infection have been resident at some period in Open-air Sanatoria or Consumption Hospitals. This clearly demonstrates the advantage of the plan adopted in many other towns of admitting to the municipal hospitals for a few weeks patients suffering from phthisis with the object of instructing them not only in the mode of life advisable in their own interests, but also in the proper method of disposal of the expectoration, etc. Unfortunately our Borough Sanatorium has hitherto been only sufficient for the purpose for which it was erected, viz. :— the isolation of infectious fevers; the Smallpox Hospital in Sutton Road is not required except for short periods at long intervals, but there would possibly be a strong objection on the part of the patients to being admitted to either of the two Ward Pavilions, even if these were efficiently disinfected, and there are unfortunately no separate administrative buildings. When the new administrative block and the new ward pavilion at the Sanatorium have been completed, it will, I hope, be possible, subject to the sanction of the Health Committee, to utilise for several months in the year during periods when scarlet fever and diphtheria are not prevalent, a ward for this purpose.

Diagnosis of Early Cases.

It is universally recognised that it is all important for efficient treatment that the disease should be recognised in its early stages, and the provision made by the Council for the free bacteriological examination of specimens of sputum at the Borough Laboratory is largely made use of by the Medical Practitioners of the town.

Notifiable Zymotic Diseases.

Smallpox.

No case of smallpox occurred during the year. Upon seven occasions communications have been received from various Medical Officers of the arrival in the Borough of persons exposed to infection on ships arriving at English Ports from foreign parts; these persons have been visited and kept under observation during the incubation period of the disease.

Vaccination.

Although I am not in possession of the official statistics I understand that the number of unvaccinated persons in the Borough is largely on the increase, a great number of parents having, I am informed, availed themselves in recent months of the provisions of the last Vaccination Act by means of which they are exempted from penalties upon making a statutory declaration of conscientious objection to the vaccination of their children. Judging from the experience of past years, another period of increased prevalence of smallpox in the Metropolis is to be expected within the next few years, and with Southend in such free communication with London it is not to be expected that the Borough will escape. Owing to the population being now nearly twice as large as at the time of the last outbreak and to the increased number of persons unprotected from the disease by vaccination, a visitation of smallpox will be a much more serious and expensive matter than in 1901-2.

Typhoid Fever.

During the year twenty-six cases of typhoid fever occurring in twenty-five houses were notified, and of these twenty were removed to the Borough Sanatorium. In addition three other cases with suspicious symptoms were provisionally notified as typhoid fever, and at the request of the Medical Attendant were removed to the Sanatorium for isolation until a definite diagnosis could be made. The Widal reaction in these three cases continued to be negative throughout the illness, the subsequent course of which demonstrated that the disease was not typhoid fever. The notifications were consequently withdrawn by the Medical Men notifying, the revised diagnosis made by the latter in the three cases being respectively :—(1) ulcerative colitis, the patient dying fourteen days after admission, the diagnosis being confirmed on autopsy; (2) appendicitis, the patient being discharged ten days after admission convalescent; (3) anterior polio myelitis, the patient being transferred some days later to a non-infectious hospital where he made a partial recovery.

The following table gives the statistics as regards typhoid fever for the last ten years :—

TYPHOID FEVER.

Year	Population	No of Indigenous Cases	Rate per 10,000 of Population	Total No. of Deaths	Deaths per 100 Cases	Deaths per 10,000 Population
1898	22583	95	54	16	16·8	7·1
1899	24710	52	23	6	11·5	2·4
1900	27721	55	20	6	10·71	2·2
1901	27196	45	15	8	17·8	2·7
1902	33573	101	30	12	11·42	3·7
1903	37283	60	16	10	15·78	2·7
1904	41944	10	2·3	2	20·0	·4
1905	46383	16	3·4	8	50·00	1·7
1906	50302	17	2·9	2	11·8	·4
1907	53233	19	3·5	5	26·3	·9
1908	57399	20	3·48	3	15	·5

Monthly Notifications.

The number of notifications received each month in the year is shown in the following table :—

Month	No. of Cases	Month	No. of Cases
January	3 (1 imported)	September	5 (3 subequently withdrawn)
February	1 (imported)	October	6
March	1	November	5 (1 imported)
July	3 (1 imported)	December	2
August	3 (2 imported)		

Imported Cases.

Of the twenty-six cases of typhoid fever, six were undoubtedly imported, having been infected before they came to reside in the Borough; four arrived ill, one being a sick bay attendant at a Naval hospital who had been nursing patients suffering from the disease, one arrived from Marseilles where typhoid fever was very prevalent at the time, another came on a visit from a village in Buckinghamshire where later other cases of typhoid fever occurred, while the fourth came home on account of his illness from the town in which he was residing. Of the other two imported cases, one became ill two days after arrival from London, while the onset of the disease in the other occurred within a few days of her arrival from a town where there was a slight outbreak of the disease.

As to the mode of infection in these imported cases there was a history of shell-fish in two, and of infection by personal contact with known cases in one; in two of the three other cases the patients came from towns where the disease was known to be unduly prevalent.

Indigenous Cases.

RELATION TO SHELLFISH.

Of the twenty indigenous cases there was a history of the eating of shell-fish within three weeks of the onset of the disease in thirteen cases as follows :—

Mussels	1
Oysters	8
Oysters and Cockles	1
Oysters and Periwinkles	1
Periwinkles	1
Clams	1

The onset of the disease took place at the end of a week in four cases, in the second week in six cases, while in the remaining three cases no definite interval could be ascertained as the patient continued to eat shellfish from time to time up to the date of the onset of the disease.

In some of the cases the shell-fish were obtained and consumed outside the Borough; even taking these into account it is satisfactory to note that only in three cases were the shell-fish purchased at shops; in the majority of the remaining ten cases the shell-fish were picked up by the patient or his friends in places known to be polluted, while in a few instances they were purchased from itinerant hawkers who, in two cases at least, obtained their supplies from objectionable sources.

In the case where the eating of clams was the suspected cause of the illness, it is to be noted that the clams were sold after being boiled, being, however, placed in a basket alongside of oysters of very suspicious origin. The periwinkles had been boiled by the patient herself, but for so short a time that effectual sterilization was impossible.

In many of the thirteen cases associated with the eating of shell-fish other members of the family partook at the same time of the shell-fish, but, except in the one household where two brothers became infected, only one member of a family contracted the disease. This is what one would expect when it is remembered that, as is probably the case with other infectious diseases, every person is not at all times susceptible to infection, and that moreover it does not necessarily follow because shell-fish are obtained from a source liable to pollution that each oyster contains the typhoid bacillus. On the other nand in three instances the only member of the family to be attacked had alone partaken of the shell-fish.

I was informed in October by some of the Medical Practitioners in the Borough that they had under treatment cases of diarrhœa and vomiting, which they attributed to the eating of oysters picked up by the patient or friends from old oyster beds no longer cultivated on account of their liability to pollution. In one instance at least all the members of a family who partook of such oysters suffered from diarrhœa a few hours later with the exception of the one who subsequently developed typhoid fever; similar instances have frequently been recorded, and are doubtless to be explained on the assumption that the occurrence of the diarrhœa assisted in the elimination of the noxious material.

The attention of the Health Committee having been called to the fact that cases of illness were attributed to the eating of shellfish gathered from places other than properly protected beds, steps were at once taken by them to prevent as far as possible the collection for use as food of shellfish obtained from such obviously contaminated sources.

In addition to the thirteen cases where shell-fish had been eaten within three weeks of the onset of the illness one case occurred in a boy who on several days in the preceding fortnight had been using as bait for fishing shell-fish obtained from polluted sources. This may seem a far-fetched explanation, but it is a possible means of infection, similar cases having been noted by other Medical Officers.

RELATION TO OTHER CASES OF TYPHOID, etc.

Of the remaining six cases unconnected with the eating and handling of shell-fish, two notified early in the year were infected by direct contact with at the time unrecognised cases of typhoid. In the other four cases no such relation was ascertained, nor was there any recent history of the eating of shell-fish, watercress, or other uncooked vegetables, etc.

RELATION TO DRAIN DEFECTS.

The drains of each house where a case of typhoid fever has occurred are tested as a routine measure, and in two cases only were any serious defects discovered; very slight defects were, however, found in five other cases as shown below.

Of the fourteen cases associated with the eating or handling of shell-fish within three weeks of onset of disease, slight defects were found in the houses occupied by four, the defects being:—

1. Drains defective from sink gully to inspection chamber.
2. Slight defects to w.c. branch drain.
3. Slight defects over intercepting trap.
4. Defective joint on soil pipe.

Of the other two cases apparently secondary to an unrecognised case, a defect was found in one, viz., a cracked water closet basin.

Of the four remaining cases defects were found in two, viz. :—

1. Drain slightly defective from sink gully to intercepting trap.
2. Very defective drains which had a short time previously been broken open by tenant to remove a blockage and had not been repaired.

It may be remarked that as regards the six houses where the imported cases were temporarily residing, slight defects in drainage were found in four.

DEATHS.

Of the three deaths, one occurred at the patient's home on the day the disease was notified, the diagnosis having been complicated by the presence of pneumonia; the patient had been nursing some weeks previously an unrecognised case. The other two patients died at the Sanatorium one early in the year on the 10th day of the disease from cerebral abscess of some duration and entirely unconnected with the attack of typhoid fever, the other from cardiac failure in the third week of a severe attack of the ambulatory variety.

Scarlet Fever.

During the year 172 cases of scarlet fever were notified, but of these two were subsequently withdrawn as not being scarlet fever, subsequent observation leading the Medical Attendant to revise the diagnosis to "erythema" and "measles" respectively. Two cases originally notified as diphtheria were subsequently found to be suffering from scarlet fever and not diphtheria, while one case notified as nasal diphtheria was found to be suffering from both diphtheria and scarlet fever.

SCARLET FEVER.

Year	Estimated Population	Cases Notified	Case rate per 1,000 Population	Deaths	Deaths per 1,000 Population	Deaths per 100 Cases
1899	24710	150	6·07	1	·04	·66
1900	27721	142	5·12	2	0·07	1·41
1901	29793	99	3·32	2	·06	·99
1902	33537	109	3.25	—	·00	·00
1903	37283	73	1·95	3	·08	4·19
1904	41944	50	1·19	—	·00	·00
1905	46380	87	1·87	—	·00	·00
1906	50302	190	3·77	3	06	1·57
1907	53283	168	3·15	1	·02	·59
1908	57399	170	2·96	—	·00	·00

The type of the disease prevalent during the year has on the whole been extremely mild, and though a few of the patients suffered from severe attacks there were no fatal cases. The mildness of the majority of cases is shown by the fact that in about one fourth of the primary cases a Medical Practitioner was not consulted until peeling of the skin following a slight malaise attracted the attention of the parents. In the last six months of the year I detected, as the result of enquiries and of intimations from the School Teachers, no fewer than twenty-three patients in various stages of the disease, the mildness of the initial attack having been such that the friends had not called in their Medical Attendant as it was not thought possible that the illness was scarlet fever.

As to the origin of the infection eleven were definitely imported cases, the patient having been either ill at the time of arrival or sickening within a few hours; six of these occurred in August when the boarding houses and lodging houses of the Borough were full of visitors, but in spite of this only one secondary case could be traced as being due to the imported infection, an infant having been infected by his sister prior to the latter's removal to hospital. Two patients were probably " return " cases occurring after discharge of a primary case from the Borough Sanatorium, and in one case the attack followed the discharge of a primary case from an Isolation Hospital belonging to another Sanitary Authority after a total stay of sixteen weeks. Particulars of the former cases are given under the section dealing with the Borough Sanatorium.

One hundred and thirty-eight of the patients were removed to the Borough Sanatorium, the remaining thirty-two cases being nursed at home. Provided that the patient could be provided with a separate bedroom, and that there was a reasonable probability that the precautionary measures would be intelligently and conscientiously carried out no pressure was brought to bear in order to have the patients removed to Hospital. When there were other members of the family who had not been attacked, the parents were generally anxious for the removal of the patients; of the cases nursed at home the majority occurred in houses either where there were no other children or where all the children had already been attacked before notification of the first case. No "return" cases were traced to these "home" cases, although in two instances definite secondary cases occurred at intervals of nine days and five weeks respectively after notification of the first case.

As regards the Hospital cases, only one secondary case occurred in a house after the lapse of five days from the time of removal of the original case; the notification of this patient eight days after removal of the primary case and the thorough disinfection of the rooms, etc., led to renewed enquiry into the source of infection, which was discovered to be an unrecognised case in a boy in a neighbouring house who had doubtless infected both patients.

Diphtheria.

During the year seventy-seven cases of diphtheria and two cases of membranous croup were notified, sixty-seven houses being invaded. In addition, two cases notified in March to have diphtheria were found later to be suffering from scarlet fever and not diphtheria, and one notification in November was subsequently withdrawn by the Practitioner, further observation showing that the disease was not diphtheria. In the majority of the other cases the clinical diagnosis was confirmed, before notification, by bacteriological examination.

Sixty-five of the cases were removed to the Borough Sanatorium, the remainder being treated at home.

DIPHTHERIA AND CROUP.

Year	Estimated Population	Cases Notified	Case rate per 1000 Population	Deaths	Deaths per 1000 Population	Deaths per 100 Cases
1899	24710	16	·64	1	·04	6·25
1900	27721	21	·75	3	·10	14·28
1901	29793	85	2·85	12	·40	14·11
1902	33537	171	5·09	25	·74	14·61
1903	37283	57	1·53	4	·10	7·01
1904	41944	73	1·74	2	·04	2·74
1905	46380	72	1,55	4	·09	5·55
1906	50302	71	1·41	5	·10	7·04
1907	53283	71	1·33	5	·09	7·04
1908	57399	79	1·37	9	·15	11 39

Nine deaths from diphtheria were registered during the year, giving a zymotic death rate of 0.15 per 1,000. Of these seven occurred in the Borough Sanatorium, their condition being practically hopeless at the time of their admission, and, with one exception, were cases that came under treatment on or after the fourth day of disease. Two died at home, one from laryngeal diphtheria a few minutes after the patient was first seen by a medical man, the other from paralysis following a severe faucial attack.

The importance of early recognition of the nature of the attack so as to admit of the administration of antitoxin is shown by the following particulars of the illness of the patients admitted to the

Sanatorium. Nasal diphtheria being a more chronic and less fatal variety, cases of this form of the disease have been excluded.

Day of Disease on which admitted	No. of Cases	No. of Deaths
1st	5	—
2nd	9	—
3rd	16	1
4th or later	29	6

Thus only one death occurred among thirty patients who came under treatment on or before the third day of disease, whereas six deaths occurred in the twenty-nine cases which did not receive antitoxin until on or after the fourth day.

The Medical Practitioners of the Borough make extensive use of the facilities provided by the Council for the free bacteriological examination at the Borough Laboratory of swabs from cases of sore throats of doubtful nature; in this way much delay is prevented, and curative and prophylactic measures are adopted at an earlier period than would otherwise be possible. Fatal cases of diphtheria will continue, however, to occur more frequently than they should until parents learn that any sore throat in a child, especially if it be accompanied by a discharge from the nose or swelling of the glands of the neck, may possibly be due to diphtheria, and if it should be such every hour which elapses before the administration of antitoxin may diminish the chances of recovery.

It is surprising to find how many attacks of diphtheria in children may not excite alarm in even careful and well-to-do parents until the severity of the attack, uncontrolled for several days by the only effective form of treatment, has seriously jeopardised the patient's life. As proof of this, I might point out that of the forty-five cases of diphtheria which occurred in the last six months of the year no fewer than twelve cases of various degrees of severity were not under medical care when they were detected by me as the result of information received from School Teachers, Attendance Officers and other sources.

The importance of nasal cases as a means of communicating infection is referred to under the heading of Schools.

Other Notifiable Diseases.

Puerperal Fever.

Two cases of puerperal fever, both fatal, were notified during the year. Both of the patients had been attended during their confinements by registered midwives, one of whom held the L.O.S. Certificate.

One patient, aged thirty, developed a rigor twenty-six hours after her confinement in January, and died from rapid toxæmia on the following day. The other patient, aged twenty-eight, died on the fourteenth day after her confinement in July. Neither patient was removed to the Sanatorium.

The Midwives in question were suspended from practice by the Medical Officer of the County Council, the supervising authority, until thorough disinfection of their clothes, bags, etc., had been carried out, and no subsequent cases developed.

Erysipelas.

Nineteen notifications referring to eighteen persons were received during the year, one patient's illness being notified by two doctors. The majority of the cases occurred in persons over the age of fifty, the face being the commonest site of the disease, and, with one exception, all the patients recovered. The sanitary condition of the houses, was investigated, but no other measures adopted to prevent the spread of the disease. It is very doubtful whether the compulsory notification of erysipelas serves any useful purpose.

The Non-Notifiable Zymotic Diseases.

Diarrhœa.

During the year twenty-one deaths were recorded as being due to zymotic diarrhœa, all being of children under fourteen months of age. Great care is apparently taken by the Medical Profession in the Borough to distinguish on the death certificate between deaths from zymotic diarrhœa and those from enteritis, so it is not probable that many of the nine deaths from the latter are placed under the wrong category, especially seeing that the majority occurred at the periods of the year when diarrhœa was not prevalent.

Although more prevalent than in 1907, diarrhœa was decidedly less in evidence than in some former years, as will be seen from the following table :—

Year	No. of Deaths from Diarrhœa	Diarrhœa Zymotic Death Rate per 1000 Births	Zymotic Death Rate from Diarrhœa
1899	25	38.0	1.01
1900	15	20.3	0.54
1901	34	43.5	1.15
1902	8	13.1	0.24
1903	6	16.0	0.16
1904	84	79.4	2.00
1905	24	28.3	0.51
1906	72	63.9	1.43
1907	11	10.5	0.15
1908	21	19.1	0.36

All the fatal cases received medical treatment during their last illness except one infant aged ten months, whose death was registered on the parents' statement that the cause of death was "syncope following diarrhœa." I understand, however, that many of the children when they first came under treatment were already in extremis, so that medical skill was of little avail in preventing a fatal termination. The ages at death of the fatal cases were as under :—

Age at Death	No. of Cases	Age at Death	No. of Cases
1 month	1	8 months	2
2 ,,	3	9 ,,	1
3 ,,	5	10 ,,	1
4 ,,	3	11 ,,	—
5 ,,	1	12 ,,	1
6 ,,	2	13 ,,	—
7 ,,	—	14 ,,	1

The first two deaths which were attributed to zymotic diarrhœa occurred on June 22nd and 23rd respectively, followed by one death on July 29th, four in the last fortnight of August, nine during September, and five in the first three weeks of October.

As in past years the fatal cases and presumably the incidence of the disease has practically been confined to three comparatively small areas of the Borough, the greater portion of which seems to remain practically free from the disease; the areas have already been noted by my predecessor in former reports, and are characterised, as he has pointed out, by having in their immediate neighbourhood either brickfields, stables, rag and bone stores, poultry runs, or other places where flies are especially numerous. They may be described briefly as being (1) the district in the neighbourhood of the brickfields; (2) the vicinity of Summercourt Road and Salisbury Avenue; and (3) the area bounded by Dalmatia Road, Stromness Road, Riviera Drive and Stornoway Road.

The number of fatal cases this year is fortunately very small, so that it is impossible to make any reliable deductions from the figures. It is noteworthy, however, that six deaths occurred in each of these areas and two just outside their limits, so the experience of 1908 is but a repetition of that of years in which the disease has been more prevalent. Spot maps show that these areas have a greater number of births than other districts in the Borough of similar size, but although there is thus a larger infant population liable to be attacked, the greater incidence of the disease is out of all proportion; that the conditions prevailing must be unduly prejudicial to child life apart from the increased liability to zymotic diarrhœa is shown by the fact that the areas in question also have, as compared with the rest of the Borough, a somewhat higher infantile mortality from other diseases.

Of the fatal cases one only was entirely breast fed; two had been breast fed in the early months of life, but had been weaned a few weeks prior to the onset of the illness; eighteen had been bottle fed since birth. In eight cases the bottles were of the uncleanly long tube variety and not of the boat type; five of the twenty bottlefed children were given condensed milk only, the remainder having cow's milk; three had in addition patent foods, while two of the children under five months of age were being given bread and milk and biscuits.

In view of the theory that the disease is spread through the agency of flies, it is of interest to note that the latter were reported to have been unduly numerous in nine of the houses, while in six instances only could it be said any special care had been taken to prevent the milk becoming contaminated by them. In many of the houses the milk and other food were being kept in most unsuitable positions; the larder was unventilated and placed under the staircase in thirteen cases; in three cases the food was kept in cupboards in the kitchen or scullery, and in one case in a box in the living room; in only four houses was the larder more or less properly ventilated and in communication with the open air.

In June pamphlets calling attention to the more important points in connection with this disease were distributed from house to house in every street in the areas which past experience shows are peculiarly liable to excessive prevalence. These pamphlets lay stress on the importance of breast feeding, on the inadvisability of weaning infants between July and September, on the necessity of taking every precaution against contamination of milk by flies or other means, and on the urgency for medical treatment in the early stages of the disease.

Particular attention is also paid throughout the summer months to the sanitary condition of the houses and of the back-yards in the affected areas, any nuisance being forthwith abated; stables, mews, and other premises likely to attract flies are kept under special observation, and every endeavour made to secure the frequent emptying of manure pits, etc.

Measles and Whooping Cough.

Only two deaths from measles and three from whooping cough, as compared with seven and twenty respectively in 1907, were registered, all being of children under five years of age. Although there have been many isolated cases of families being attacked by each of these diseases, they were not unduly prevalent at any time of the year; in a few instances the infection seemed to be connected with school attendance, but the measures adopted prevented any extensive spread.

Pamphlets pointing out the precautions necessary in dealing with these diseases, and of the seriousness of the complications which develop through their being neglected were distributed in the neighbourhoods where cases were reported.

MEASLES AND WHOOPING COUGH.

Year	Estimated Population	MEASLES.		WHOOPING COUGH	
		No. of Deaths	Deaths per 1000 Population	No. of Deaths	Deaths per 1000 Population
1899	24710	—	·00	1	·04
1900	27721	4	·14	2	·07
1901	29793	11	·37	25	·84
1902	35337	2	·06	8	·25
1903	37283	7	·18	8	·20
1904	41944	3	·07	5	·12
1905	46380	6	·13	18	·38
1906	50302	3	·06	2	·04
1907	53283	7	·13	20	·38
1908	57399	2	·03	3	·05

Other Infectious Diseases.

Mumps.

Mumps was very prevalent throughout the last three months of the year; the first case occurred in children attending the London Road Infants' School, but cases soon occurred in some of the other Schools. Owing to the prolonged duration of both the incubation and infectious stages, and the difficulty which parents and teachers have in recognising mild cases, it is practically impossible to prevent the spread of infection. Fortunately the disease is generally a trivial affection, and I am not aware that any of the more serious but fortunately rare complications have been noted during the outbreak.

Chicken Pox.

There have been several limited outbreaks of chicken-pox but no wide-spread incidence. The same difficulty in preventing the spread of infection arises in dealing with this disease as with mumps.

Disinfection after Infectious Diseases.

After the occurrence of any of the notifiable diseases except erysipelas, and after death or removal of persons suffering from phthisis, the infected rooms are disinfected by the officers of the Health Department free of charge by means of formalin vapour, or in some cases by the formalin spray. Bedding, etc., is removed to the Disinfecting Station at the Sanatorium for steam disinfection in a Washington Lyons machine. Leather goods, furs, etc., are disinfected by formalin in a closed chamber. Although no fewer than 6,721 articles were dealt with according to one or the other of these methods during the year it is satisfactory to be able to record that no complaints of damage to or of loss of goods were received.

For several days after the removal of a case of typhoid fever to the Sanatorium, and throughout the course of the disease if the patient is treated at home, the house drains and adjoining sewer are flushed and disinfected daily by the members of the Surveyor's staff.

Disinfectants are distributed on application at the Health Department to houses where infectious diseases have occurred. Requests for the gratuitous distribution of disinfectants for pouring down offensive sink wastes, etc., are, however, not acceded to until after a visit of inspection, the fact that such a proceeding is called for being regarded as evidence of a defect or of want of cleanliness.

All books returned to the Public Library are before re-issue disinfected by formalin vapour in a chamber provided for that purpose at the Library.

Drain Testing after Occurrence of Infectious Diseases.

Although modern bacteriological methods have shown that infectious diseases are probably not due to faulty drains, etc., it is generally accepted that the escape of sewer gas into houses and the offensive smells which arise from untrapped sink wastes, etc., lead to an impairment of the general health, and thus may indirectly increase the risk of infection by rendering the person more susceptible. The drains, etc., of several houses, the residents in which have frequently suffered from attacks of sore throat have been examined during the year at the request of the Medical Attendant, and in many cases the remedying of some insanitary condition thus discovered has led to the cessation of the sore throats.

The drains are also tested as a routine measure after the occurrence in any house of typhoid fever. The same remark applies to the majority of the houses in which cases of diphtheria have been notified, and to some in which scarlet fever has occurred. The results obtained are shown in the following table :—

	No. of houses in which no defects were found	No. of houses in which slight defects were found	No of houses in which serious defects were found
Scarlet Fever ...	45 ...	22 ...	5
Diphtheria ...	12 ...	22 ...	7
Typhoid Fever ...	10 ...	11 ...	1
Total ...	67 ...	55 ..	13

BOROUGH SANATORIUM.

Statistics.

During the year 227 cases were admitted to the Borough Sanatorium; of these 138 were suffering from scarlet fever, 65 from diphtheria or membranous croup, and 20 from typhoid fever. Four other patients were also admitted and isolated until it was clear that their illness was of a non-infectious character; three of these had, as has already been mentioned, been provisionally diagnosed to have typhoid fever, while the other patient was suspected to have scarlet fever, but proved to be suffering from simple tonsilitis.

Disease.	Remaining in Sanatorium Dec. 31st, 1907.	Admitted from 1st Jan. to 31st Dec. 1908.	Total under Treatment. 1908	Discharged during 1908.	Died during 1908.	Remaining on 1st Jan. 1909.
Scarlet Fever ...	13	138	151	135	—	16
Diphtheria ...	5	65	70	57	7	6
Typhoid Fever ...	5	20	25	19	2	4
Other diseases	—	4	4	3	1	—
Totals	23	227	240	214	10	26

The arrangement by means of which patients, if they so desire, may continue to be treated by their own doctor after removal to the Sanatorium continues to work satisfactorily; four cases of typhoid fever, two of diphtheria, and nine of scarlet fever admitted during the year were so treated, the remaining 212 being under the care of the Medical Officer of Health.

Utility of the Sanatorium.

Of the cases occurring in the Borough during the year 82 per cent. of the diphtheria cases, 81 per cent, of the scarlet fever cases, and 77 per cent. of the typhoid fever cases were treated in the Sanatorium.

Where cases can be efficiently isolated at their homes no pressure is brought to bear in order to induce the friends to consent to the patient's removal to the Sanatorium; the usual experience has been that friends, appreciating the difficulty of satisfactory home isolation and the hardship to the patients arising from the solitude necessitated, are not only willing but anxious that the patient should be removed.

The question which has been agitating the governing bodies of certain other districts as to the utility of an isolation hospital hardly arises in a health resort like Southend, where it is essential that cases of infectious disease arising in hotels, boarding houses, lodging houses, etc., should at once be removed not only for the sake of the public health but also in the interests of the landlords who would suffer very heavy financial loss if they were debarred from receiving visitors for six or seven weeks during the short summer season. As so many of the ratepayers of the town gain their livelihood by letting rooms to summer visitors, it is essential in their interests that the accommodation at the Sanatorium should always be sufficient to enable every case notified to be removed thereto if necessary. During the first fortnight of August, owing to a slight rise in the number of cases of scarlet fever among the residents and the necessity for isolating six imported cases who were infected before arrival in the Borough, the accommodation in the scarlet fever wards at the Sanatorium was somewhat strained, but fortunately it did not become necessary to refuse to admit any patient whose removal to hospital was advisable.

The Matron and staff continue to carry out their duties with zeal and devotion combined with tact and judgment. Many patients and their friends have spontaneously expressed their gratitude for the kindness and consideration, which they have experienced from the Nurses. The economy and efficiency with which the institution is conducted are largely due to the Matron whose skill in administration and in nursing has earned for the Hospital the confidence of all the Medical Men practising in the Borough.

Return Cases.

Two instances where the discharge of a patient from the Sanatorium after recovery from scarlet fever was followed by a second case in the same house were recorded during the year. At the time they left the Hospital both patients were well, and had finished peeling and had no nasal or ear discharge, but on examination after the occurrence of the secondary case eighteen and twenty-four days subsequently respectively, they each showed some evidence of nasal discharge.

These so-called return cases, which are the great drawback to the utility of isolation hospitals are probably not due to any want of care in the discharge of patients or to inefficient disinfection prior to leaving the hospital. As a result of bacteriological examination in the analogous disease diphtheria, we know that patients although presumably quite recovered from the disease may harbour virulent diphtheria bacilli in their noses and throats for many months, although no morbid condition can be detected upon examination. In these patients the tissues would appear not to develop the property of destroying the bacilli as readily as do those of the average person, and there does not appear to be any reason why the same should not be true of scarlet fever in which disease, however, we are unable to put the assumption to the test of experiment. Too prolonged a detention in hospital may, if this theory be correct, actually lead to an increase in infectivity as the tissues may after a time lose their bactericidal property and thus enable the patient to become again a " carrier " of virulent germs; this would account for the greater number of return cases after hospital treatment than after home treatment and would explain the infection of one of the patients admitted during the year who contracted the disease from his brother seven days after the latter had been discharged from an Extra-Metropolitan Fever Hospital after a stay of sixteen weeks.

System of Discharge.

As regards scarlet fever patients the practice adopted is to treat convalescent patients in wards other than those to which patients in the " acute " stage are admitted; before discharge each patient is bathed, dressed in uninfected clothing and placed in a " discharge " ward, where he stays two or three days before he is permitted to leave the institution. Nasal discharge being regarded as merely a means of distributing the infectious material in the event of the patient's nasopharyx still harbouring the germ, patients with this complication have not been looked upon as necessarily still infectious, but have been detained as a matter of precaution ten weeks or more, the last two weeks of which have been spent in a non-infectious ward. Late desquamation not being regarded as evidence of continued infectiousness cases are not detained on this account alone.

As regards diphtheria patients no patient is discharged until the results of the bacteriological examination of two successive swabs from the nose and two from the throat are negative.

Typhoid fever patients receive urotropin as a urinary disinfectant for ten days before they leave the Sanatorium.

Proceeding on these lines it is found that the average stay in hospital is not excessive being for " recovered cases " only, forty-five days in the case of typhoid fever, thirty-four days in diphtheria and forty-seven days in scarlet fever.

Improvements during the Year.

The much needed enlargement of the laundry has been completed during the year, and the provision of a washing machine, a hydroextractor, a calender, and suitable drying rooms has very materially tended to the smooth working of the institution during the summer time of pressure. A new mortuary and ambulance shed have also been erected during the year.

In December a tender for £1,972 11s. 6d. was accepted for the erection of the new pavilion consisting of two wards of eight beds each, with two one-bedded separation rooms which are capable of being used as isolation wards or as private wards as circumstances demand. This work was put in hand at once and its completion will to a great extent relieve for a time anxiety as to the adequacy of the accommodation available for the isolation of the infectious sick.

The " Tin-hut," the first building to be erected on the site of the present Sanatorium, has been renovated at a cost of less than £5, and its two rooms with bathroom intervening have been of great service as discharge wards.

The isolation accommodation for the reception of doubtful cases and of mixed cases of infection is still lamentably deficient; apart from the Tin House which is in use as a discharge ward, the only isolation ward available is the Berthon Hut for two beds. It is highly desirable that any future enlargement of the Sanatorium should include the provision of some isolation wards preferably on the cubicle system.

Tenders will shortly be invited by the Council for the erection of the new Nurses' Home and Administrative Block, the building of which will complete the alterations and additions for which a loan of £8,000 was sanctioned in 1907, and will enable all the members of the nursing staff to be housed within the walls of the Sanatorium.

Cost of Maintenance, etc.

The following statement, extracted from the official Abstract of Accounts, shows the expenditure, etc., on the Borough Sanatorium and Borough Laboratory during the year ended 31st March, 1908.

EXPENDITURE FOR THE YEAR ENDED 31st MARCH, 1908.

SANATORIUM—						
Salaries and Wages—						
Medical Superintendent	80	0	0			
Nurse Matron	65	0	0			
Nurses and Probationers	144	13	5			
Wardmaids and Servants	106	14	4			
Laundresses	85	4	6			
Porter and Workmen, &c.	292	0	0			
Extra Medical Assistance	3	3	0			
	776	15	3			
Uniforms for Staff	22	14	1			
				799	9	4
Medicines, Surgical Appliances and Disinfectants	74	6	3			
Provisions for Staff and Patients	626	2	4			
Clothing for Patients, Linen Drapery, Repair of Mattresses, &c.	123	5	5			
Crockery and Ironmongery	51	19	0			
Removal of Patients to Sanatorium	36	10	0			
				912	3	0
Rates, Taxes, Insurance	31	1	10			
Rent of Telephones	15	0	3			
Garden	8	9	1			
Rent of Nurses' Home	32	19	1			
Gas	115	4	0			
Water Supply and Flushing	32	2	2			
Coal, Coke, Firewood	99	0	5			
				333	16	10
Repairs and Alterations	10	12	11			
Laundry Apparatus, &c.	70	11	4			
Hire of Portable Steam Engine	6	10	0			
Team Labour	2	5	1			
				89	19	4

Advertising, Printing, Stationery, Stamps	17	6	0			
Agreement and Contract Stamps	7	3	6			
Sundries	7	17	9			
				32	7	3
LABORATORY—						
Chemicals and Sundries	2	7	0			
Attendant's Wages	16	0	0			
				18	7	0
				2,816	2	9
Less Transfers to Other Accounts				0	5	10
				£2,815	16	11

INCOME.

Receipts from Patients	277	17	5			
Sundries	0	2	0			
Establishment Grant from County Council	94	10	0			
				372	9	5
				£1,813	7	6

SMALLPOX HOSPITAL.

The Smallpox Hospital in Sutton Road is visited at regular intervals by the staff of the Health Department, and is maintained in a state of readiness for the immediate admission of patients should necessity arise.

THE BOROUGH LABORATORY.

One thousand and twenty-eight specimens of various kinds from cases of infectious and contagious diseases were bacteriologically examined during the year.

Of these sixty-four were specimens of blood for determination of Widal's reaction; twenty-eight of these gave a positive, thirty-four a negative and two a doubtful reaction.

Of seventy-four specimens of sputum sent by doctors for examination for the presence of tubercle bacilli, twenty-seven were positive and forty-seven negative.

Three hundred and eighty-six throat and nose swabs were received from Medical Practitioners in the town for examination as to the presence of the diphtheria bacillus; of these ninety were positive and 296 negative. The majority of these were cases of suspected diphtheria, but a few were for the purpose of deciding whether a home-treated patient was free from infection.

Four hundred and thirty-eight bacteriological examinations were made of patients in the Borough Sanatorium, generally for the purpose of deciding whether a patient was ready for discharge after an attack of diphtheria; some, however, were of scarlet fever patients with suspicious throats in case there was a co-existence of the two diseases. Each of these examinations involved an examination of two swabs, one from the throat and one from the nose.

A sample of brawn was examined for the presence of the bacillus enteritidis of Gærtner and four other specimens were of a miscellaneous character.

In addition the water supply of the Borough has been examined bacteriologically and chemically at regular intervals.

Sixty-one specimens of hairs suspected to be infected with ringworm were examined during the year; of these forty-eight were positive and thirteen negative.

Sanitary Inspection and Administration,

SANITARY INSPECTION AND ADMINISTRATION.

Systematic Inspection.

In company with one or the other of the Inspectors, the Medical Officer of Health made fifty-four inspections of the district during the year in addition to numerous inspections while unaccompanied. The majority of premises kept under supervision such as slaughterhouses, cowsheds, dairies, etc., were visited from time to time and house to house inspections were carried out in those districts where the houses were through age becoming dilapidated or where other considerations pointed to the necessity for so doing. Among the matters which have engaged my particular attention during the time I have held office the following may be especially referred to.

Cesspools.

The outlying portions of the Borough not as yet provided with sewers, and consequently dependent on the use of cesspools, have been kept under constant supervision, but in spite of this the cesspools on the Coleman's Estate and those on the area which intervenes between Leigh Road West and the London Road are frequently a source of nuisance. Efforts have been made to persuade owners or tenants to arrange for their being emptied at regular and frequent intervals, but so far without much success, the great expense and the difficulty of obtaining the requisite labour being given as the reason. The cesspools at Bournes Green and on the Hamstells Estate are satisfactorily attended to in the majority of instances.

Back Passages.

Particular attention continues to be given to the passages at the rear of houses; several occupiers being concerned, no one of them looks upon himself as being responsible for their cleanliness, with the result that many of these passages become the dumping ground for all kinds of rubbish and filth; their swampy condition after rain is also very objectionable. Twenty-seven notices were served upon owners during the year to cleanse or make up back passages, and all were complied with, much to the benefit of the occupiers of the houses.

Manure Pits.

The accumulation of manure in stables, mews, etc., in the near vicinity of houses is also a frequent cause of nuisance, and leads to many complaints, especially during the fly season. When such manure pits are not emptied weekly, as required by the byelaws, a notice is served without delay, and if not complied with the accumulation is removed after the expiration of twenty-four hours by the Surveyor's staff, and the cost charged to the occupiers. During the summer I personally called on several of the tradesmen in occupation of stables, etc., and invited their co-operation in getting rid of a state of affairs which if allowed to continue must react injuriously upon their own interests. The reason given for non-compliance with the byelaws was almost invariably their inability to get farmers to take away the manure during the harvest season, but this does not justify the creation of a serious nuisance—in some instances in the very centre of the town. The Nelson Mews, off Nelson Street, have during the year been a frequent cause of trouble in this respect. The stables behind the Strand, in Southchurch Road, are in such close proximity to the houses that unless the manure is removed almost daily throughout the summer a nuisance must necessarily arise, and consequently these premises have to be kept under constant supervision.

Overcrowding.

Several complaints of alleged overcrowding during July and August were received probably as the result of the grossly exaggerated accounts given in the London papers. Enquiries were, in each instance which came under notice, at once instituted, but no overcrowding sufficient to justify action on our part was discovered. The explanation of the rumours is probably not far to seek. On the one hand visitors, especially Jews, staying in several different lodging houses may resort for meals to one house where they can, if Jews, obtain Kosher meat; neighbours seeing a great number of persons entering and leaving conclude erroneously that the house must necessarily be overcrowded. On the other hand a private house let for the season may be used by the temporary tenant as a boarding house; some of the sitting rooms are converted into bed-sitting rooms with the result that, although not overcrowded, the house accommodates many more persons than usual. In many of the houses during the height of the season there stay no doubt a surprisingly large number of persons, but it is to be remembered that the standard of air space required for each individual is not a high one, and that in the summer months windows are usually kept widely open during the few hours when the visitors remain indoors. I have had several rooms measured in view of the number of persons whom I have found sleeping therein, and in some instances have advised that one or more of the visitors should sleep elsewhere.

Poultry Runs.

A very large number of residents seem anxious to keep fowls and even ducks in their back gardens, and frequently the smaller the garden the greater the number of birds kept. Even when some care is taken as regards cleanliness of the poultry runs, the keeping of birds in such a confined space as exists at the backs of many of the houses is objectionable from the health point of view, and in many cases a serious nuisance arises. We receive many complaints in this connection, and in each case where there is want of cleanliness, or where the poultry run is in close proximity to neighbouring houses, notice to abate the nuisance is served. During the year forty-eight such notices were served, and in every case the occupier gave up poultry keeping on his premises.

Seaweed and Dead Shellfish.

The foreshore is kept under constant supervision by the Pier Department, and accumulations of seaweed, etc., are removed. During September I received complaints from residents on the Southchurch Beach concerning a very offensive odour arising from the decomposition of seaweed, dead shellfish, etc., which had been cast up by a storm and were lying around and amidst heaps of stones deposited on the beach pending the building of the sea wall. Steps were at once taken to abate the nuisance by burying the seaweed, etc., as far as possible, any further cause for complaint being removed shortly afterwards by the heaps of stones being removed. Apart from this no complaints were received during the year concerning the foreshore.

Gipsies.

The encampment of itinerant van dwellers on vacant lands on the outskirts of the Borough continues to give rise to numerous complaints, partly no doubt for sanitary reasons, but partly also in all probability for other considerations unconnected with health or decency. So long as the dwellers continue to reside in their vans and do not resort to tents or huts it is extremely difficult to deal with them under the byelaws, the requirements of which are easily complied with in a legal sense, though proper sanitary conveniences are practically never provided. A notice to comply forthwith with the byelaws or in the alternative to remove the vans is served upon the occupiers; if default is made the vans are driven with the aid of Corporation horses on to the public highway, any further action being left to the Police.

Vacant Building Plots.

As in other towns where building is proceeding rapidly there are in many of the new roads in the Borough, especially in the western portion, one or more plots on which building has not yet been commenced. As a result these spaces become the dumping ground of all kinds of refuse from the neighbourhood such as garden rubbish, broken glass, old wall papers, etc. These accumulations are not only a nuisance but also a great eyesore, tending to give the neighbourhood a generally untidy appearance. At present it is a matter of considerable difficulty to deal with the question effectually, and it is very desirable that a byelaw should be obtained making it an offence to deposit rubbish of any kind on such vacant land.

General Sanitary Work.

The following table, drawn up by Mr. Whur, the Chief Sanitary Inspector, gives a summary of the work carried out under his supervision by the Inspectors. The particulars given clearly show the great attention which in this Borough is paid to the supervision of the dwellings, the workplaces and the food supplies of the inhabitants, but the amount of labour involved thereby can only be appreciated by those intimately connected with the Health Department.

SUMMARY OF INSPECTORS' WORK, 1908.

Complaints received and attended to	176
Frivolous complaints	10
Nuisances detected without complaint	579
Nuisances abated on notice	488
Nuisances abated without notice	225
Number of notices served	520
Houses affected by notices	686
Notices not carried out, but being dealt with	32
Houses inspected	1803

As to the Testing of House Drains.

Number of Houses drains tested	263
Number of Houses, re-drained	60
Total length of drain re-laid and tested with water .... feet	2452
Inspections during testing and re-testing of old drains	4085
Soil pipes tested and re-tested	324
New soil pipes provided	4
New vent shafts to drains provided	21
Old houses, drains connected to sewer	5
New intercepting traps fixed	17
New inspection chambers provided	36
New covers to inspection chambers provided	11
Inspection chambers rendered	12
New Gullies fixed	93
New closet basins and traps fixed	44
New closet seats provided	24
New w.c.'s erected	12
Improved ventilation to w.c.'s	2
W.C.'s floors paved	13
New flushing cisterns provided	8
Sanitary certificates granted	17

Miscellaneous.

New stoneware sinks fixed	17
Sink waste pipes trapped	25
Bath Wastes trapped	9
Lavatory basins trapped	2
Defective bath wastes repaired	3
New sink waste pipes fixed	47
New sanitary ashbins provided	168

New manure pits provided	3
Cesspools, inspections	42
Ditches cleansed	3
Notices served *re* removal of manure under Section 49, Public Health Act, 1875	27
Animals buried by Health Department	19
Animals improperly kept removed	51
Smoke observations	6
Gipsy vans removed	28
Visits to gipsies	86
Back passages made up, houses	31
Marine store dealers' yard inspections	25
Marine store dealer's premises limewashed	3
Brickfields refuse heaps, inspections	9
Sandpit inspections	6
Public house urinals, inspections	48
Public house urinals cleansed	11
Inspections with Medical Officer of Health	54
Improved ventilation under floors, houses	3
Houses concreted under floors	3
Schools, inspections	3
Piggeries, inspections	14

In Connection with the Inspection of Houses the Following Insanitary Conditions have been Removed, or put in Proper State of Repair.

Cesspools emptied and filled in	7
Use of privies discontinued and filled in	3
D traps condemned	1
Lip traps condemned	15
Wood sinks condemned	1
Rain water pipes disconnected from drain	12
Dirty closet basins cleansed	13
Container closets condemned	1
Defective flushing cisterns repaired	36
Defective arm joints to w.c. repaired	10
Vent pipes unblocked	11
Defective soil pipes repaired	24
Unventilated soil pipes ventilated	1
Houses not properly intercepted from sewer, intercepting traps fixed	1
Defective sink waste pipes repaired	16
Defective roofs repaired, houses	19
Defective guttering repaired, houses	12
Defective rain water pipes repaired	17
Yards paved or repaved	30
Yard paving repaired, houses	66
Stable paving repaired	2
Stables drained	1
Blocked drains cleared on notice	84

Privies cleansed	11
Scullery floors paved	2
Disused cellars filled in	2
Cellars, floors cemented	12

In Connection with Water Supply the Following Work has been Carried out.

Houses connected with Water Company's mains	5
New water service to houses provided	3
Water laid on to w.c.'s	11

With Respect to Premises Unfit for Habitation.

Premises closed as unfit for human habitation	4
Sheds used for habitation closed	1
Houses cleansed	3
Rooms cleansed	20
Dirty ceilings cleansed	6
Ceilings repaired	1
Rooms measured as to overcrowding	3
Overcrowding in rooms abated	3

Particulars of Enquiries with Respect to Infectious Diseases, also of the Articles and Number of Goods Disinfected at the Steam Disinfecting Station.

Enquiries *re* infectious diseases	341
Enquiries *re* infantile deaths	102
Enquiries *re* small pox contacts	4
Enquiries *re* cholera contacts	1
Enquiries *re* cases of pulmonary phthisis	80
Enquiries *re* cases of cancer	31
Enquiries for Medical Officer of Health	102
Pamphlets delivered from house to house	5000
Interviews	390
Houses disinfected, rooms	439
Articles removed from houses for steam disinfection	6721
Visits to Small-pox Hospital	5
Patients removed to Sanatorium	219

Bakehouses.

Bakehouses on register, December 31st, 1908	40
New Bakehouses added to register	3
Notices served on occupiers	6
Change of occupiers	5
Underground bakehouses in use	3
Bakehouses, inspections	372

GOODS DISINFECTED.

Beds	605	Dressing Gowns	53
Blankets	594	Dresses	34
Bolsters	273	Chemises	18
Pillows	747	Bodices	171
Pillow Cases	40	Drawers	48
Mattresses	144	Shirts	57
Sheets	367	Vests	92
Counterpanes	237	Table Cloths	72
Combinations	13	Toilet Covers	208
Skirts	223	Towels	187
Shawls	42	Stockings	165
Box Covers	36	Carpets, pieces	218
Jackets	142	Handkerchiefs	109
Rugs	139	Hats	42
Carpets	50	Knickers	103
Blinds	69	Boots	35
Valances	66	Books	258
Eiderdowns	85	Cushions	164
Night Gowns	52		

Other sundry articles of clothing, &c., 702.

DAIRIES.

Dairies on register, December 31st, 1908	38
New applications for registration	5
New applications granted (Two of the new dairymen share premises with existing dairymen).	5
Dairies discontinued as such	1
New dairies erected	2
Existing premises converted into dairies	1
Change of occupiers	2
Notices served on occupiers	3
Dairies, inspections	436

MILKSHOPS.

Shops where milk is sold other than dairies	104
Visits to above shops	240
Discovered selling milk and not registered	13
New purveyors of milk added to register	30
Persons discontinuing selling milk	7
New regulation covers provided to milk pans	5
Dirty measures discovered	7
Dirty Covers discovered	1
Change of occupiers	8

COWSHEDS.

Cowsheds on register, December 31st, 1908	5
Cowsheds added to register	—
Notices served on occupiers	1
Cowsheds, inspections	53
Applications for registration (in abeyance)	1

SLAUGHTERHOUSES.

Slaughterhouses on register, December 31st, 1908	7
Notices served on occupiers	1
Slaughterhouses, inspections	167
New applications for licensed slaughterhouse	1
Granted subject to requirements being carried out	1

BOROUGH ENGINEER'S DEPARTMENT.

I am indebted to Mr. Elford, the Borough Engineer, for the following particulars relative to the year 1908:—

Number of houses connected to public sewer	439
Number of houses connected to cesspools	7
Number of earth closets	3
Number of houses in course of erection	258
Number of habitation certificates applied for	452
Number of habitation certificates granted	447
Number of habitation certificates deferred	5
Length of soil sewers laid by estate owners	yards 490
Length of storm water sewers laid by estate owners	yards 616
Length of soil sewers laid by Corporation	yards 527
Length of storm water sewers laid by Corporation	yards 1858 various sizes.

Housing of Working Classes.

Houses for the Working Classes Act, 1890.

The forty houses erected under Part 3 of the Housing of the Working Classes Act are all occupied, and no difficulty is found in obtaining satisfactory tenants. They are of two types, those of Class A contain a parlour, kitchen, entrance porch, and scullery, three bedrooms and a bathroom, and are let at 8s. 6d. per week; those of Class B contain a living room, a scullery and small entrance porch with two bedrooms, and are let at 7s. 6d. per week. The demand for these houses has increased since 1905, when the rents were altered so as to be inclusive of rates, etc., the former rental being 6s. 9d. and 5s. 6d. respectively. The majority of the tenants are brickmakers, gardeners, dustmen, labourers and persons engaged in similar manual work, although one or two are engaged in clerical work such as clerking, etc.

No houses were closed under Part 2 of the Act, but in one instance four houses were demolished by the owner, who preferred to adopt this course rather than go to the expense of putting them into a condition of habitable repair.

House Accommodation.

Although the number of empty houses has undergone a marked decrease during the last year, it cannot be said that there is a deficiency in the number of houses suitable for occupation by persons of the working classes. Many of the houses built in recent years were apparently intended to be let to one family at a rental of from £28 to £32 per annum, but in some districts these are now let in tenements to two or more families, although no alterations have in the majority of instances been made to render them suitable for this purpose, as, for example, the separate provision of proper scullery sinks, suitable larders, w.c.'s, etc. Although there has been during the last few years a great increase in the number of tenement houses there cannot be said to be many conveniently arranged self-contained flats suitable for occupation by the working classes.

New Houses.

Four hundred and forty-seven habitation certificates were granted during the year. All plans are submitted to the Buildings Committee and have to comply with the byelaws in force. The Buildings Inspectors exercise constant vigilance in supervising the building of all new dwellings, and there is every reason to believe that there has been in recent years very little jerry building.

Sanitary Condition.

Particulars of defects found on inspection of houses are to be found on an earlier page. Generally speaking, it may be said that houses are in a good state of sanitation and fit for habitation. There are no slums and no back-to-back houses; the majority of the houses have a garden of fair size at the back and there are very few enclosed courts.

Thanks to the thorough house to house inspection and routine drain testing carried out in the older portions of the town some years ago, and to the fact that the houses in the newer parts of the Borough have been erected under the supervision of the Surveyor's Department, the position of Southend from the point of house drainage must be regarded as eminently satisfactory. The majority of the defects now detected are of a minor character and such as might be expected after the interval which has elapsed since the drains were laid.

The old property in the Borough, such as in Prittlewell, Bournes Green, Albert Square, Cockertons Cottages, East Cottages and Rayleigh Cottages, requires constant supervision, and although becoming more or less dilapidated the premises are maintained in a fair state of repair. The majority of the tenants of these old houses keep them in a remarkably clean condition and from long residence have acquired almost an affection for their dwellings, which is fortunate, seeing that unless this was so, many of these houses would soon become unfit for habitation. There can be no question but that the cleanliness of a household and of its children depends solely upon the habits and character of its womenfolk, and not upon the relative wealth or poverty of the family, or on the character, convenience, or otherwise of their dwellings, or on the situation of the latter in the town. This must strike anyone whose duties necessitate constant visits to the homes of the workers. That cleanliness and comfort are not incompatible with poverty is abundantly evident in the great majority of the houses in the poorer parts of the town. It is to be hoped that the attention which will henceforth be paid to the personal hygiene of children while at school will lead to a higher general standard of cleanliness in the homes of the future, and will obviate the necessity for those frequent visits of inspection which now have to be made to certain houses of the Borough in order that their cleanliness may attain to even a moderate standard.

Common Lodging Houses.

There are no common lodging houses in the Borough.

House Refuse.

Collection of House Refuse.

The Town Council undertakes the collection of house refuse, and for this purpose the Borough is divided into five districts, each of which is cleared once weekly; hotels, boarding houses, etc., are cleared twice weekly during the winter and three times weekly during the summer months. On the average thirty-two men with sixteen horses and vans or carts are employed each day on this duty, with an average daily collection of forty-five loads. The vans, six in number, carry from three to four cubic yards, while the twelve carts have each a capacity of about two cubic yards; the latter are employed principally for collections from houses in roads where the use of vans would be inconvenient; all the vehicles are provided with covers or with tarpaulin so as to prevent dust, etc., being blown about.

Disposal of House Refuse.

At present the refuse is deposited at various tips in situations as far as possible removed from neighbouring houses, either in outlying districts in the Borough or in the adjoining rural districts; the greater quantity is taken to brickfields. During the winter months the material, being of considerable calorific value, is appreciated by the owners of the brickfields, and there is no great difficulty in thus disposing of it. During the summer, however, when house refuse is particularly apt to be a nuisance, it is of little value as combustible material, and consequently there is greater difficulty in getting rid of it; moreover, the distance of the tips from the town, especially those outside the district leads to great expense through cartage.

The difficulty in finding suitable tips led the Council in 1902 to decide upon erecting a Dust Destructor, the necessity for which had been impressed upon them as far back as 1895 by Dr. Clough Waters, then Medical Officer of Health. The site proposed was on land adjoining the Corporation Depôt, in the rear of London Road, but objection having been raised by owners of surrounding property the matter remained in abeyance until 1905, when application was made to the Local Government Board for sanction to the borrowing of £10,000 for the purpose. Local opposition to the site, however, being made at the enquiry, sanction to the proposed loan was refused until settlement of litigation then pending against the Corporation in respect of a nuisance which it was alleged arose from the neighbouring Electricity Works; this matter, was, however, satisfactorily settled in December, 1907, an undertaking being moreover given that the proposal to erect a Destructor on the site in question would be abandoned. In January, 1908, the Council resolved that application be made to the Local Government Board for sanction to the borrowing of £11,000 for the erection of the proposed destructor on a portion of the land to be acquired for the new sewage works. The necessary inquiry was held by one of the Board's Inspectors in May last, but the necessary sanction has not yet been obtained, the Board doubtless awaiting the passing by Parliament of the Corporation Bill dealing with the sewage scheme.

There can be no question that the erection of a dust destructor is a matter of very considerable urgency. The finding of suitable tips has become an extremely difficult matter, while the great distance to which the refuse has to be carted makes the collection and disposal of the house refuse of the Borough a very expensive item.

The collection in a health resort of house refuse once only each week cannot be looked upon as satisfactory. It is doubtless true that if each householder burnt in the kitchen fire all animal and vegetable refuse and used the ashbins solely for ashes and dust the nuisance arising therefrom would be considerably diminished, even under the present arrangements. It is, however, to be remembered that where gas stoves are in use there is frequently no kitchen fire where such refuse can be consumed, and this is especially apt to be the case during the summer months when the deposit of putrescible matter in the bins is particularly liable to cause offence. It is consequently not surprising that the constant requests made in this connection by the Inspectors and by the Dust collectors are without avail. Many of the ashbins, moreover, are placed much too near the dwellings, and although we insist upon the provision of sanitary bins with proper covers, the latter are seldom kept in position so that the refuse becomes sodden with rain and thus more quickly putrefies. With the erection of a dust destructor it is to be hoped that the Council will see their way to provide for the removal of house refuse from every dwelling in the town twice a week throughout the year, and during the summer months on alternate days at least. In the central portions of the Borough it might be advisable to provide during the height of the season for a daily collection, as is carried out I understand at several other seaside resorts.

The Proposed Destructor.

It is proposed to allocate half an acre of the site of the new sewage treatment works at Prittlewell for the erection of the destructor, which will thus be at least half a mile from any populous portion of the Borough. The Destructor will consist of six cells, each with a minimum capacity for dealing with ten tons per twenty-four hours; there will be three hoppers, two water-tube boilers, an economiser, a dust arrestor, and two regenerators, together with a chimney shaft one hundred feet high. The Borough Engineer estimated the total cost at £11,000, allocated as follows:—Land, £100; buildings, including tipping platform, £2,750 19s. 2d.; inclined roadway including stores, £821 14s. 6d.; chimney shaft, £1,033 5s. 4d.; destructor cells, water tube boilers, flues, economiser, etc., £5,800, and contingencies, £494 1s.

Sewage Disposal.

The Local Government Board Enquiry into the Council's application for powers to borrow £158,000 for the new scheme of sewage and sewage disposal works prepared by the Borough Engineer, was held by P. M. Crosthwaite, Esq., M.I.C.E., and H. Timbrell Bulstrode, Esq., M.D., two of the Board's Inspectors, on the 14th April last. By letter, dated 14th October, the Local Government Board informed the Council that they were advised that the effectual safeguarding of the Borough from all possibility of litigation in connection with the disposal of sewage could only be secured by legislation, and suggested that the Council should promote a Bill which would afford statutory protection, provided they carried out and utilised at all times such works for the purification or disposal of sewage as the Local Government Board from time to time required to be carried out.

A Bill is consequently being promoted in the present Session of Parliament to authorise the Corporation to acquire lands for and to construct additional sewerage and sewage disposal works with clauses affording statutory protection to the Council so long as the effluent from the works reaches the standards laid down in the Schedule of the Act.

These standards of purity are as follows :—

1. Solid Matters. Each gallon shall not contain more than four grains of solid matter in suspension.

2. Odour. The effluent shall have no offensive odour, and when kept for three days at a temperature of 98 degrees Fahrenheit in a full stoppered bottle shall not develop a putrefactive odour.

3. The "impurity figure," calculated as described below, shall not exceed sixteen.

   The albuminoid ammonia in grains yielded by one gallon of the effluent shall be multiplied by fifty and the amount of oxygen in grains absorbed from permanganate of potash in three hours by one gallon of the effluent shall be multiplied by five, and the sum of the two figures so obtained shall be "impurity figure."

In view of the enormous bulk of tidal water into which the effluent will be discharged these standards will be looked upon by many as possibly far too high, but, inasmuch as it will probably not be difficult with the new disposal works for them to be attained, it was considered inadvisable to fix upon standards of less stringency, especially having regard to the opposition to the Bill that might thus be caused. If the effluent fails to comply with the standards as laid down a daily penalty is to be incurred, unless the Local Government Board is satisfied that such failure is of a temporary character only, and due to circumstances beyond the control of the Corporation.

The scheme, which will involve an estimated expenditure of £160,000, provides for the construction of several miles of deep sewers, a pumping station, detritus and septic tanks, percolating filters, and a new outfall sewer to discharge into the Thames Estuary about one and a half miles below high water mark.

Offensive Trades.

Byelaws in connection with the carrying on of Offensive Trades are in force in the Borough.

The Council, on 20th October, resolved, upon the recommendation of the Health Committee, to consent to the establishment at the Colonies, Eastwood Lane, by Messrs. Powling Bros., of the trade of bone and fat boilers, subject to their providing forthwith the apparatus necessary for compliance with the Byelaws in order to prevent nuisance from the offensive vapours given off during the process. Messrs. Powling Bros. are installing ventilation fans, hoods, etc., by means of which the vapours will be passed through the furnace fire; the alterations had not been completed at the end of the year, so the license has not yet been issued. The premises in question are situated at the very outskirts of the Borough, and a collection of fat, bones, etc., is made daily in the town from the premises of butchers, provision merchants, hotel keepers, etc. By being enabled to dispose daily of their putrefiable waste materials, the tradesmen of the Borough are enabled to maintain their premises in a more cleanly condition, and moreover, owing to the proximity of the fat boiling works, are able to command a better price for their waste fats, bones, etc., inasmuch as the cost of carriage of the crude material is thereby saved.

The only other premises where trades of an "offensive" character are carried on in the Borough are rag and bone-dealers' stores. These are five in number, and are subject to frequent inspection. The premises are fairly well kept, considering the nature of the trade carried on, but on four occasions notices had to be served, two requiring general cleansing to be carried out, and two the limewashing of the walls, etc., in accordance with the Byelaws.

SUPERVISION OF FOOD SUPPLIES.

The Dairies, Cowsheds and Milkshops Order.

The greater portion of the milk consumed in the Borough is even in the winter months obtained from dairy farmers outside the Borough; in the summer months, the increased demand is met by the bringing into the town of large quantities of milk obtained from wholesale dealers in London. As a consequence the officers of the Council are unable to supervise much of the milk supply at its source where it is especially liable to contamination owing to faulty and uncleanly methods of production. If all Sanitary Authorities exercised the powers of control given them under the Order, the matter would be of little consequence, but it is notorious that in many districts there is practically no supervision of the milk supply; this, in addition to being detrimental to the public health, is a great injustice to those dairymen who happen to reside in areas the Sanitary Authorities of which exercise all their powers. The working of the Acts obtained by the London County Council, enabling them to prohibit dairymen sending into their area milk found to be tuberculous may, as happened when Manchester obtained similar powers, lead to such milk being sold in districts outside London, and it will be necessary for Local Authorities to be on their guard to see that this does not occur. If these special powers are necessary to safeguard the health of the inhabitants of London, Manchester and other large cities, there seems no reason why the residents of other towns should not need similar protection and the introduction of the long promised Milk Bill will be welcomed by all who are aware of the present state of affairs.

There are five cowsheds in the Borough; all are in a fair state of repair and the provisions of the Regulations as regards the cleanliness of the premises are satisfactorily observed. Fifty-three visits of inspection were made during the year by the Inspector in addition to those made by the Medical Officer. At each of the cowsheds provision is made enabling the milkers to wash their hands before milking, but constant supervision is needed to see that this is done. The cows are kept in a much more cleanly condition than formerly, some attempt at grooming being now general. At four of the cowsheds efficient apparatus is provided for the immediate cooling of the milk.

There were thirty-eight *dairies* on the register on 31st December, five having been added during the year and one taken off. Two new dairies were built, and the opportunity was taken during their erection to see that all the requirements necessary to render the buildings suitable for the purpose intended were complied with. 436 visits were paid during the year and three notices to abate minor nuisances were served. In two of the dairies the milk is pasteurized during the hot weather before being sent out to customers.

There are 104 *milkshops* on the register; of these thirty were added during the year, while seven premises ceased to be used as milkshops. Instances of unregistered persons keeping milk shops are frequently coming under notice, thirteen being discovered during the year. The premises are generally found to be clean, and the regulation requiring that all milk vessels should be provided with a suitable cover is well observed. Some of the milk vendors are in a very small way of business as far as the milk trade is concerned, not selling perhaps more than a quart of milk daily; where there are in the same neighbourhood other more suitable premises from which milk can be obtained, every endeavour is made to dissuade these small traders from continuing to sell milk, especially if the shop is, as often happens in these cases, also used as a fish shop, oil shop, etc.

Sale of Food and Drugs Acts.

The Borough not either being a County Borough or having a separate Quarter Sessions, the administration of these Acts rests with the Essex County Council to whose Inspector, Mr. H. C. Card, I am indebted for the following particulars of action taken in the Borough during the year.

	Samples taken and submitted to the Public Analyst.	Adulterated.	Analyst's report pending.
Margarine	3		
Butter	26		2
Milk	30	1	6
Sugar	1		
Coffee	3		
Sardine Paste	1		
Lard	5		
Cream	1		
Chocolate	3		
Milk Blended Butter	3		
Ground Rice	1		
Tea	1		
Pepper	1		
	79	1	1

A number of other samples were taken just outside the Borough boundary. Two prosecutions were instituted during the year; a person was fined £1 and 4s. costs for violating the requirement as regards the labelling of margarine, while in the other case a milk vendor was fined 10s. and 4s. costs for selling milk adulterated with 11 per cent. of added water.

The Meat Supply.

Assistant Inspector Penn, who holds a Meat Inspector's Certificate, paid during the year 167 visits to the seven slaughter-houses, and sixty-one visits to the butchers' shops in the Borough.

In five instances, meat unfit for food was discovered and voluntarily surrendered on request by the meat trader for destruction, as follows:—

1 slink calf.
2 bullocks lungs (tuberculous).
1 leg of mutton (injured).
1 fibroid liver.

One loin of mutton was submitted for inspection by the purchaser, but was not condemned; the joint had been badly cooked, and having been frozen had become hard.

One fowl which after purchase had been kept in an unsuitable larder was brought for inspection owing to commencing putrefaction; the vendor on his attention being drawn to the complaint at once consented to return the money paid, although it was admitted by the purchaser that the fowl was in good condiiton at the time it was bought.

Some brawn which was alleged to have caused severe diarrhœa and vomiting in the three persons who had partaken of it was submitted for examination; bacteriological investigation failed to reveal the presence of Gærtner's bacillus enteritidis and enquiry showed that no other illness had been caused by eating the brawn although a large quantity of the same consignment and from the same package had been sold.

The Fish Supply.

Ninety-five visits have been paid to the various fish-shops, particular attention being devoted to those which sell fried fish. No unsound fish was detected; the premises with few exceptions were found to be well conducted.

During the autumn much shellfish was hawked about the town by persons who in some cases came from outside the Borough and were thus competing with the ratepaying fishmongers. Upon one occasion I met a hawker in the street who had in his possession oysters which he admitted had been gathered from a grossly polluted area, confirmatory evidence of which was afforded by the presence of the variety of seaweed commonly found in sewage contaminated waters.

The shellfish sold by many of these persons was doubtless obtained from sources not above suspicion, and there is a danger that by this means undeserved opprobrium may be cast upon the shellfish industry as conducted by careful and conscientious traders.

Fruit and Vegetables.

Sixty-six inspections were made of fruit shops, stalls, etc. Six bananas which had become unfit for food were voluntarily surrendered.

Restaurant Kitchens, etc.

Reference to these is made under the heading of the Factory and Workshops Act.

Water Supply.

The Southend Water Works Company which supplies the Borough and some of the surrounding rural districts obtains its water from deep wells sunk into water bearing strata, generally the chalk, underlying the London clay. The wells which, with two exceptions, are all situated in the open country away from all possible source of contamination, are admirably constructed and efficiently protected against the possibility of pollution; they are eighteen in number, and during 1908 an additional source of supply has been obtained owing to the acquisition by the Company of a borehole at Slices Gate which is distant from Southend thirteen miles in a direct line. The water obtained from this source is of the same character as that obtained from the wells. Two additional deep wells are under construction, one at Slices Gate, and one at Downham, the latter passing through 500 feet of London clay and of the lower London tertiary deposits and through 400 feet of the underlying chalk. Pumped from the wells the water passes either into one of the four large covered reservoirs or in the case of the wells nearer the town direct into the main. It is of a high degree of purity judged both by chemical and bacteriological standards; samples are examined at regular and frequent intervals at the Borough Laboratory, and also independently by a water expert acting on behalf of the Water Company. The results obtained are remarkably constant and the following may be taken as typical:—

Free Ammonia	absent.
Organic Ammonia	.002
Chlorine	27.2
Nitric Nitrogen	.05
Nitrites	absent
Hardness.—Permanent	1.5°
Temorary	4.5°
Total	6.0°
Oxygen absorbed at 98° in 4 hours	.03

The water from each of the wells has during the year been subjected to several bacteriological examinations by Dr. Thresh, the County Medical Officer, in addition to those made by myself of the water supplied to the Borough. The results show the water to be of excellent quality and free from any suspicion of contamination.

The supply throughout the year has been constant and beyond those temporary and localised interruptions necessitated from time to time by the exigencies of working there have been no intermissions in the service. Two complaints only were received during the year, and had reference to temporary conditions which were promptly got rid of by the flushing by the Water Company of the mains affected. One complaint had reference to the peculiar taste of the water supplied for a few hours to a small area in the western portion of the Borough; during the re-packing of one of the pumps the coal tar preparation in which the yarn is soaked had evidently communicated a slight tarry taste to the water. The other complaint was of the presence in the water of minute living animalcule, which proved on examination to be a somewhat uncommon variety of water worm differing slightly from the anguilula. They had evidently got into one of the mains from their normal habitat—moist earth—but prompt flushing removed all further cause for complaint.

On the average 22.46 gallons per day are supplied by the Company for each person resident in the area in which they have mains; it is probable that there is extremely little wastage through defects in the mains, etc., and this would account for the relatively small consumption.

The Manager and Secretary of the Company, Mr. Bilham, to whom I am indebted for some of the above facts is ready at all times to afford me any information I require, and I desire to take this opportunity of recording my obligation to him for his generous assistance and invariable courtesy.

Slaughterhouses.

There are seven slaughterhouses in the Borough, all of which are, however, small premises; one is licensed, but the other six are registered having been in use for very many years. Speaking generally, they are in fair condition structurally, although three are but wooden sheds, and some are becoming more or less dilapidated. They are situated in various parts of the Borough, and are on this account difficult to supervise efficiently. Assistant Inspector Penn, who acts as Meat Inspector, paid 167 visits in the course of the year and found that the premises are generally kept in a clean condition, and that the provisions of the byelaws in force are satisfactorily observed. One notice only required to be served during the year, and this was promptly complied with. Particulars of unsound meat detected during the year are given under the heading of Food Inspection.

During November two applications to the Council for a licence to use premises as slaughterhouses were received; one of these was granted for a term of one year after certain alterations necessary to adapt the premises for use as a slaughterhouse were completed; the other application was refused, the Council considering that the close proximity of neighbouring residences rendered the site unsuitable.

Owing to the very rapid growth of the Borough in recent years, the slaughterhouse accommodation has become very markedly insufficient for present needs, the result being that several butchers have to use the same premises; the overcrowding which results therefrom leads to great inconvenience, and to much difficulty in maintaining a high standard of cleanliness owing to the responsibility in the matter being divided among the employees of several firms. One small slaughterhouse is in fact used by no fewer than five firms, one of which does a wholesale trade.

In October, 1906, a deputation from the Southend and District Meat Traders' Association petitioned for the erection of a Public Abattoir, but the matter has hitherto remained in abeyance. The Council are alive to the advantages which would accrue to the public health from the erection of a public slaughterhouse, but local considerations make the question a difficult one and in great part account for the delay in their coming to a decision. The closing of the present registered slaughterhouses would raise the question of compensation. Some of the butchers of the town have slaughterhouses in the surrounding rural districts, and a good deal of the slaughtering moreover is done on the neighbouring farms, from the tenants of which the stock has been purchased; these premises must often be ill adapted for the purpose, and the practice renders efficient meat inspection impossible. Lastly a very large proportion, probably about three quarters, of the beef consumed in the town is obtained from the London meat markets, and this is due not so much to the deficient slaughterhouse accommodation in the Borough as to the butchers being by this means enabled to secure prime or other portions of the carcase as the requirements of their trade demand.

It is clear that all the advantages to the public health to be derived from the erection of a public abattoir would not accrue to the town unless such a course would ensure that a considerable proportion of the meat consumed would be killed in the abattoir, and having in mind the considerations just mentioned, I think this somewhat doubtful.

Any ambitious scheme such for example as would cost over £2,000 would almost certainly be a failure from both a financial and a public health point of view, as unless low charges were made many of the butchers would continue to resort to slaughterhouses outside the Borough.

On the other hand the increase in number of private licensed slaughterhouses, which is the only alternative, while perpetuating many of the other evils of the present system, renders efficient meat inspection impossible and increases the difficulty which will have to be met if in future a public abattoir is decided on.

FACTORY AND WORKSHOPS ACT 1901.

FACTORY AND WORKSHOPS ACT, 1901.

By the provisions of Section 132 of the Act, the Medical Officer of Health is required in his annual report to "report specifically on the administration of this Act in workshops and workplaces, and to send a copy of his annual report or so much of it as deals with the subject to the Secretary of State." The statistics are given in the following table in the form required by the Home Office.

1.—INSPECTION.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF NUISANCES.

Factories	No of. Inspections	No. of Written Notices	No. of Prosecutions
Factories (including Factory Laundries)...	36	3	
Workshops (including Workshop Laundries)	500	11	
Workplaces (other than Outworkers' premises included in Part 3 of this report)	201		
Total	737	14	

2.—DEFECTS FOUND.

Particulars	No. of defects found	No. of defects remedied	No. of defects referred to H.M. Inspector
Nuisances under Public Health Acts.			
Want of cleanliness	7	7	
Other Nuisances	1	1	
Sanitary Accommodation—			
Insufficient	—	—	
Unsuitable or defective	9	9	
Not separate for sexes	1	1	
Breach of special sanitary requirements for Bakehouses (ss. 97 to 100) ...	1	1	
Total	19	19	

(Section 22 Public Health Acts (Amendment) Act, 1890 is in force).

3.—HOME WORK.

Lists received from Employers—	
Twice in the year	4
Once in the year	4
Outworkers on Lists	21
Addresses of Outworkers received from other Councils	11
Address of Outworkers forwarded to other Councils	8
Inspection of Outworkers' premises	36
Outwork in Infected Premises, instances	3
Prosecutions	Nil.

4.—REGISTERED WORKSHOPS.

Workshop Bakehouses	37
Workshop Laundries	9
Domestic Workshops	26
Other Workshops	98
Total number of Workshops on register	170

5.—OTHER MATTERS.

Matters notified to H.M. Inspector of Factories—	
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshops Act (s. 5)	
Notified by H.M. Inspector	2
Reports (of Action taken) sent to H.M. Inspector...	2
Underground Bakehouses (s. 101)—	
In use at the end of the year	3
Number of Factories under the Inspector of Home Office	50
Circular letters sent by Medical Officer of Health to likely employers of labour *re* Outworkers	37
Communications received from employers of labour	11
Notices received from Home Office *re* new workshops or change of occupants	11
Nuisances detected by H.M. Inspector and reported to Medical Officer of Health	2
Workshops measured as to cubic space, lighting, ventilation, &c.	14
Workshops, including Bakehouses, limewashed	79

Factories.

Southend-on-Sea being essentially a residential town and health resort rather than an industrial town, there are no large factories within the Borough. H.M. Inspectors are mainly responsible for the administration of the Act as regards factories, but during the year thirty-six inspections of the fifty factories in the Borough were made by the Sanitary Inspectors.

Two intimations of the occurrence in factories of nuisances remediable under the Public Health Acts, but not under the Factory and Workshops Act were received from H.M. Inspector during the year; one referred to the want of sanitary accommodation separate for the sexes, and the other was in connection with the ventilation of a w.c. into a factory; a third nuisance arising in a factory from the want of cleanliness of a w.c. was discovered by the Sanitary Inspector. Notices to abate these nuisances having been served they were promptly complied with. The Public Health Amendment Act, 1890, being in force in the district, the Sanitary Accommodation Order made by the Home Secretary on the 4th February does not apply to the local factories and workshops, but identical standards of sufficiency and suitability of the sanitary accommodation are laid down in the Regulations made by the Council in 1905 under Section 22 of the Act.

Workshops.

Exclusive of bakehouses there are 133 workshops in the district, of which twenty-six are domestic workshops. During the year 138 inspections were made, with the result that seven instances of want of cleanliness and of other nuisances were discovered and in due course abated upon service of notice.

Workplaces.

Two hundred and one inspections of workplaces were made during the year. Particular attention has been paid to Restaurant kitchens, of which there are a large number in the Borough. Some of the premises from their construction are not very suitable for the large business now carried on, but, with few exceptions, they are kept in a reasonably clean condition. The occupiers appear to be very ready to comply with our requirements and evidently make considerable effort to carry on their business in a satisfactory manner.

Outworkers.

Two lists of outworkers (each referring to one workman) were received twice during the year and four (each referring to four workmen) once during the year from employers in the district who send out work of the nature specified in the order of the Home Secretary. Eight of the eighteen addresses thus obtained were forwarded to other Councils.

Eleven lists of outworkers resident in this Borough but working for employers in other districts were received from various Councils, but all referred to the same three workmen.

In spite of the issue in February and August to each probable employer of outworkers of a circular letter calling special attention to the requirements of the Act as regards the sending of lists of outworkers, considerable difficulty is experienced in getting them to comply. During the year in the course of enquiries into infectious diseases it was found on three occasions that outworkers of local tailors and upholsterers worked on the premises although the addresses had not been communicated to the Council. The Health Committee ordered that a letter should be sent to the offenders warning them that legal proceedings would be taken in the event of any further failure to comply with the Act. In one instance various articles of dress in course of manufacture had been exposed to infection and consequently had to be disinfected.

Bakehouses.

There are thirty-seven workshop bakehouses and three factory bakehouses on the register, and 376 inspections of these premises were made in the course of the year; six notices to abate nuisances were served and all were complied with. Three new bakehouses have been built, the plans having been previously examined in the Health Department to ensure that the buildings would be suitable for the purpose intended. The three underground bakehouses are frequently visited; the ventilation appears to be well maintained and no complaints have had to be made as regards their cleanliness.

SUMMARY OF IMPROVEMENTS, 1908.

Promotion of Bill in Parliament for sewage treatment works and Sewerage.

Application for loan for erection of Dust Destructor.

Erection of new sanitary conveniences at Brewery Road Schools and London Road Schools.

Re-building of Laundry, etc., at Borough Sanatorium and installation of modern laundry machinery.

Improvements still required,

Public Abattoir.

Additional isolation wards at the Sanatorium and erection of the new Administrative Block already sanctioned.

Making up of many of the new streets in the Borough.

More frequent collection of house refuse.

PUBLIC ELEMENTARY SCHOOLS.

PUBLIC ELEMENTARY SCHOOLS.

Of the Public Elementary Schools in the Borough five are "Provided" Schools, four are "Non-provided," and one is a special school for defective children. The accommodation provided at each school and the number on the books on 5th December last are given in the subjoined table.

COUNCIL SCHOOLS.	Accommodation	Nos. on Books 5th Dec., 1908	Date of Erection
London Road Boys'	411	411	1880
London Road Girls'	376	434	
London Road Infants'	351	323	
Brewery Road Boys'	366	364	1892
Brewery Road Girls'	360	345	
Brewery Road Infants'	360	269	
Leigh Road Boys	420	445	1896
Leigh Road Girls'	420	445	
Leigh Road Junior Mixed	358	397	
Leigh Road Infants'	368	389	
Southchurch Hall Boys'	310	338	1904
Southchurch Hall Girls'	310	322	
Southchurch Hall Junior Mixed	360	352	
Southchurch Hall Infants'	310	294	
Bournemouth Park Rd. Mixed	430	455	1907
Bournemouth Park Road Infants	390	228	
Totals	5,900	5,811	

NON-PROVIDED SCHOOLS.			
Prittlewell C. E. Mixed	176		
Prittlewell Infants'	82		
	258	298	1868
St. John's Mixed	90		
St. Johns Infants'	80		
	170	181	1850
Southchurch Mixed	72		
Southchurch Infants'	43		
	115	122	1860
St. Helen's R.C. Mixed	136		
St. Helen's R.C. Infants'	62		
	198	177	
Totals	741	778	

SPECIAL SCHOOL.			Date of Opening
Defective Class	40	39	September, 1906

In addition there is a Special Instruction Centre where cookery, laundry and manual work are taught.

Owing to the rapid increase in population, it has been necessary within recent years to provide additional accommodation at frequent intervals.

The Southchurch Hall Schools for instance were opened in April, 1904, and the Bournemouth Park Road Schools in September, 1907. The new Chalkwell Hall Schools with two departments (Infants and Senior Mixed) each accommodating 388 children are expected to be ready for opening in June next. In December the Council approved of the proposal of the Education Committee to erect additional buildings at the Bournemouth Park Road Schools for another department to accommodate 460 children.

The relative want of accommodation in the Public Elementary Schools leads to difficulties in the distribution of the children in the various schools. In spite of the division of the Borough into areas children from which are drafted into the corresponding schools, children resident in the same road may not attend the same school, and in some cases children from the same family may be attending different schools. This leads to difficulty in preventing the spread of infectious diseases from one school to another. A good instance of this occurred last autumn when an outbreak of mumps among the pupils of the London Road Infants School led after a time to the occurrence of cases among children attending some of the other schools of the Borough. In some instances I definitely traced the spread of the infection to be due to members of the same family attending different schools.

Arrangements for Medical Inspection of School Children.

Much discussion took place during the latter part of the year as to the arrangements to be made for the carrying out of the medical inspection of school children as required by the Education (Administrative Provisions) Act, 1907. The Education Committee were of opinion that the Medical Officer engaged in this work should be an officer of that Committee with no official relationship to the Medical Officer of Health. The Health Committee on the other hand, influenced by the recommendation of the Board of Education in their circulars, recommended the Council not to assent to the appointment of any Medical Officer in connection with the Schools or school children unless he was appointed to act under the control and supervision of the Medical Officer of Health.

After much discussion involving considerable delay, the matter was harmoniously settled. The Council in February, 1909, accepted the Education Committee's recommendation that the Medical Officer of Health should be appointed School Medical Officer, and that a new Medical Officer be appointed with the title of Assistant School Medical Officer and Assistant Medical Officer of Health, whose duties should primarily be in connection with the school work, but who when not engaged in these duties should also act as deputy and assistant to the Medical Officer of Health in the discharge of the general public health work of the Borough.

The duties of the new Officer in so far as the Schools are concerned were laid down by the Education Committee as follows:—

1. To reside within the Borough, and to act as Medical Adviser and Officer of the Committee under the supervision and control of the Medical Officer of Health.
2. To devote his whole time to the duties of the office, and not to engage in private practice.
3. To attend all ordinary and special meetings of the Committee and also meetings of Sub-Committees when required to do so.
4. To examine all children suspected of being mentally defective, blind, deaf, dumb or otherwise deficient, and to report thereon, also children committed to Industrial or Truant Schools.
5. To visit and examine children stated to be absent from School on account of illness in any case where there is a doubt as to the necessity for the absence.
6. To examine School Teachers, candidates, bursars and other officers of the Committee when required to do so.
7. To carry out the Medical Inspection of Scholars in accordance with Section 13 of the Education (Administrative Provisions) Act, 1907, and all such duties imposed on the School Medical Officer in connection therewith as shall be prescribed by the Board of Education and required by the Committee; keeping a complete record of each inspection.

8. To arrange, in conjunction with the Head Teacher of each School or Department, for the date and time of each inspection, and give notice thereof to the parent or guardian of each scholar to be examined, and all subsequent notifications to parents or guardians in the case of children requiring treatment.

10. To supervise the work of the school nurse, if and when one appointed.

11. Generally to carry out such duties as are required by the Committee.

It has been decided to appoint a School Nurse at a salary of £70 rising to £90, with £5 per annum in lieu of uniform, the duties of the office being defined as follows :—

1. To reside within the Borough.
2. To devote her whole time to the duties of the office and not to engage in private practice.
3. To wear, while on duty, a uniform approved by the Committee.
4. To be at the school, at which Medical Inspection is to be carried out, in sufficient time to see that the rooms are ready for use.
5. To attend the Medical Officers of the Education Committee during the Medical Inspection of the children, to assist them in such examination in so far as they direct, to see that the children come in to the inspection in their proper order and that no unnecessary delay is occasioned, to prepare the children for Medical Examination and to assist in redressing them after the Inspection.
6. To visit the homes of the children, when so instructed, for the performance of any duties in connection with children as the Medical Officers may consider desirable.
7. To carry out at the schools or at the homes, or elsewhere, under the supervision of the Medical Officers, such nursing treatment of minor ailments as they direct.
8. To perform such clerical work in connection with the Medical Inspection of children as the Medical Officers may require.
9. Generally to carry out, under the supervision of the Medical Officers of the Education Committee, such other duties as they may direct in connection with children, whether in attendance at school or otherwise

Two or three weeks will necessarily elapse before the necessary stationery, apparatus, etc., are obtained, but it is hoped to be able to commence the medical inspection of the children about the middle of March.

Although there are only 6,700 children on the school books, an unusual proportion of these join and leave each year owing to their parents coming to reside in the town for short periods for health reasons. This while being very unsatisfactory from an educational point of view will necessarily increase the work of medical inspection.

Hygienic Conditions in the Schools.

Lighting.

Generally speaking the classrooms are well lighted, but in some of the older schools this can hardly be said to be the case. Care is taken to see that as far as possible the desks are so arranged that the light enters the classroom from the left of the scholars, and when this is not the case a rearrangement of the seating accommodation has been carried out where practicable. Some of the classrooms at the London Road Schools are particularly dark, and the arrangement of the desks such that the children are to a great extent in their own light. This matter is already receiving the attention of the Committee and it is hoped that the structural alterations which will be carried out will remove this objectionable state of affairs.

Ventilation.

The attention of the Head Teachers and of the Caretakers is constantly being called to the fact that the means of ventilation afforded are not utilised to the fullest extent possible. It is not unusual to enter schools one or even two hours after the end of the school session for the day and find that the air of the classrooms remains stuffy and offensive owing to the windows not having been opened. It would be well for the Head Teachers to give instructions to their subordinates to have all the windows of the classrooms opened during the intervals and after the close of morning and afternoon sessions. In some of the schools the space afforded for ventilation by opening the windows cannot be said to be sufficient, and efforts have been made at some of the schools, *e.g.*, Prittlewell, to remedy this state of affairs.

Warming.

Warming of the classrooms is effected by either open fireplaces, stoves, or radiators, and the provision made seems to be satisfactory and sufficient.

Water Supply for Drinking Purposes.

At the majority of the larger schools drinking taps with metal cups attached by a chain are provided for the use of the children of each department. At some of the schools enamelled cups have been introduced, but on account of the chipping that quickly results as a consequence of rough usage, they will require frequent replacement to ensure that no rough surfaces remain where dirt and infectious material may lodge. Some of the smaller schools have no separate taps for drinking water, mugs being provided in close proximity to the wash-basin taps; this can hardly be considered satisfactory as in some cases it is difficult to fill the mug without soiling its drinking edge by contact with the side of the basin, oft-times soiled with dirt, soap, etc.

Water Supply for Washing Purposes.

Lavatory basins are provided in all the departments of most of the schools, but in some of them two or three basins are provided in one department only. Upon visits of inspection it is not infrequent to find that soap and towels are not provided. In many of the schools, these lavatory basins are made use of for washing ink wells, etc., and it is consequently not surprising that their condition as to cleanliness is often far from satisfactory.

Cloakrooms.

Some of these, particularly in the Non-Provided Schools, are dark and ill-ventilated. The pegs are frequently too close together while in many cases owing to their having become broken, bent, etc., they are not sufficient to allow one to be assigned to each child. It would be desirable if the stands and pegs were thoroughly cleansed at more frequent intervals than at present.

Closet Accommodation.

At the London Road Schools and at the Brewery Road Schools extensive alterations were carried out in August last in connection with the w.c.'s and urinals. The old trough closets which had become very foul were replaced with pedestal w.c.'s, provided with waste preventing cisterns, actuated in the case of the boys' and girls' departments by a chain, and in the infants' department by automatic mechanism in connection with the seats. The fittings at the other Provided Schools are in general similar, and no objection can be raised as to their suitability. The same cannot be said for the Non-Provided Schools, in some of which the accommodation provided is hardly satisfactory, or indeed sufficient. Though endeavours have been made to improve the lighting and ventilation from time to time, the question is fraught with difficulty owing to the limited space available for the erection of new premises; this also accounts for the inability to make the increase in the number of closets which is advisable having regard to the number of children in attendance.

Urinals.

The urinals at the Brewery Road and the London Road Schools were re-constructed and the accommodation increased during the structural alterations to the out offices last August. At some of the Schools, the urinal accommodation is not sufficient, having reference to the number of boys in attendance, and this leads to the fouling of the seats, walls and floors of the closets. The slope given to the floors of even the newly erected urinals is not sufficient to prevent their being more or less constantly wet. There seems to be no reason why a partial roof should not be provided over the urinals so that while free ventilation is permitted the boys using the urinals would be protected from the rain and the floors kept dry during unsettled weather.

Cleanliness of Urinals and Closets.

At the majority of the Schools the Caretakers endeavour to maintain the out offices in a satisfactory condition as regards cleanliness. By frequent visits of inspection I have impressed upon them the necessity for constant vigilance in the matter, and I am of opinion that there is now less cause for complaint than was formerly the case, though foul seats which have not been properly cleansed and dirty closet pans are still occasionally found. To be told as I was at one of the schools by the caretaker that a closet seat did not require cleansing because it was of iron (covered with rust) whereas examination showed it was of wood encrusted with dried filth of long standing, was an experience not likely to recur I trust in this Borough.

There is little doubt that a higher standard of cleanliness is much more readily obtained in the schools where modern sanitary fittings have been installed in the out offices.

The supervision of the cleanliness of the closets and urinals should receive as much attention from the Head Teacher as does the cleanliness of the class rooms, and if it became the rule for teachers to see that their pupils were trained to make a proper use of the out offices not only would these premises be less often a source of nuisance, but this practical lesson in elementary hygiene would bear fruit later in the greater regard for home sanitation shown by pupils in after-life.

Cleanliness of Classrooms.

Dry sweeping is now the exception, wet saw-dust being almost universally used. The classrooms, etc., are scrubbed out and the windows cleansed at regular but too infrequent intervals. The standard of cleanliness attained is fairly satisfactory though the Head Teachers have upon occasions called my attention to deficiencies. I think some code of instructions should be laid down for the guidance of the caretakers as to the method of performing their duties; it should detail the duties as regards cleansing the out offices, class rooms, windows, desks, etc., with definite directions as to the frequency with which any routine cleansing should be carried out. By this means alone will it be possible to bring all the schools in the Borough up to a uniform standard of cleanliness.

School Fittings.

The school desks in use are of many different patterns. At some of the Schools many of the desks are of the old multiple pattern though the desks recently provided have been of the dual type. The objections to the former from the point of view of the spread of contagious and infectious diseases are obvious; many of them moreover have been in use for so many years that they splinter readily and hence are a frequent means of inflicting slight injury to the hands and fingers of the children and teachers. Most of them are very markedly "plus" desks, *i.e.*, there is a space between the edge of the seat and the vertical line drawn from the edge of the desk to the ground; this leads necessarily to the child adopting a most distorted position while writing, etc., as is readily seen on visiting any classroom where these desks are in use. I think those "multiple" markedly "plus" desks which remain in use in the Schools of the Borough should be condemned and suitable desks of a hygienic pattern obtained. It seems little use endeavouring to improve the physical health of the children by carrying out the medical inspection of school children when the latter are compelled for several hours together to assume attitudes which lead to distortion of the body and to interference, owing to pressure and cramping, with the functions of the lungs, heart and other important organs.

Infectious and Contagious Diseases in Relation to the Schools.

The arrangements by means of which the Health Department is informed by the Head Teacher of the absence of scholars on account of presumed infectious or contagious diseases continue to be acted upon, and have during the year been upon many occasions the means of detection of cases of infectious and contagious diseases which would otherwise have escaped discovery and consequent isolation. Intimations relative to 225 children absent on account of illness supposed to be of an infectious nature were received during the latter six months of the year; visits were paid to the homes of those children where there was reason to believe no medical man was in attendance, with the result that one case of typhoid fever, twenty-three cases of scarlet fever, and twelve cases of diphtheria were discovered all of whom at the time of their detection were not being isolated or under medical care, no suspicion as to the nature of their illness having been aroused.

Scarlet Fever.

Children who have had scarlet fever are excluded from school for fourteen days after discharge from the Sanatorium; the other children in the house are excluded for ten days after the disinfection which follows the removal of the infectious case to the Hospital.

In July the occurrence of several cases of scarlet fever among the children attending a class in the Junior Mixed Department of Leigh Road Schools led to the detection of a boy who was found to be desquamating freely as the result of an unrecognised attack of scarlet fever three weeks previously. Several of the children of this class and the teacher were found to be suffering from sore throat, and as cases of scarlet fever continued to occur it was deemed advisable on July 13th to exclude the scholars of this class until after the summer holidays which commenced on July 23rd. This measure seemed to be effectual as only one subsequent case was notified.

Measles.

Although there has been no generalised outbreak, cases of measles have from time to time throughout the year been reported from the Infants' Departments of several of the schools; twenty-two such intimations were received during the last six months of the year; enquiry showed that two of the children had scarlet fever and not measles, the erroneous diagnosis being made by the parents who had not thought it necessary to call in medical advice. In the majority of the other instances where measles had been diagnosed by the parents, I found no evidence that the rash was of an infectious nature, many of the cases being nettlerash, etc. Three undoubted cases of measles however did occur, but in each case there was no reason to believe that the children had attended school in an infectious condition; exclusion of susceptible contacts from the same house sufficed in each instance to prevent spread of the infection without recourse to school or class closure.

In the earlier months of the year closure of the particular class in which a case of measles occurred became necessary on three occasions owing to the child having attended school during the earlier stages of the disease. The children were excluded for five days from the ninth day after the onset of the first case; this is the course advised by the Local Government Board in their memorandum on school closure, and proved to be efficacious in preventing the spread of infection. The school in question was Brewery Road, one class in the Infants' Department of which was closed for five days from March 3rd, March 30th and June 15th respectively.

On June 3rd it became necessary to advise the closure of the Infants' Department of St. Helen's Schools for three weeks owing to the continued prevalence of measles; no case developed subsequent to the reopening of the Department on June 22nd.

Diphtheria.

Children who have had diphtheria are not discharged from the Sanatorium until bacteriological examination of the nose and throat shows the absence of diphtheria bacilli. They are excluded from school for a further period of three weeks. Children from the same house are not allowed to return to school until ten days after the removal of the primary case to the Hospital, and then only if bacteriological examination shows they do not harbour the specific microbe.

Upon several occasions the occurrence of cases of diphtheria among the scholars of a particular class has led to the discovery of an unrecognised case in attendance at school. These infecting children have almost invariably been suffering from nasal diphtheria, the associated blood-stained nasal discharge teeming with diphtheria bacilli having doubtless been the means of spreading the disease. In July several cases of diphtheria occurring in one of the classes of the Infants' Department of the Leigh Road Schools were traced to such a case, the glandular swelling in the neck accompanying the nasal affection having been mistaken by the mother for mumps.

Chicken Pox.

Isolated cases of chicken pox have occurred among the children of many of the schools, but in only one instance, viz., a class in the Infants' Department of Brewery Road were there many cases. Owing to the infectious nature of the disease, and the ease with which mild cases may be missed by the parents, it is very difficult to prevent the spread of infection. The third crop of cases occurred fortunately during the Christmas holidays, so the extension of the disease to the other classes of the Department was fortunately prevented.

Mumps.

In October intimation of the occurrence of several cases of mumps among the children of the Infants' Department of London Road Schools was received. The first cases were evidently overlooked by the parents with the result that throughout the last three months of the year, cases of mumps continued to occur; the disease was at first limited to the children attending the Infants' Department of the London Road Schools, but in spite of our efforts to prevent it, the disease soon made its appearance in some of the other Schools of the Borough. About eighty intimations of cases of this disease were received at the Health Office. In very few instances was medical advice sought, and enquiry showed that in a fair proportion of the cases the disease was not mumps but merely a glandular swelling of the neck associated with slight sore throat, decayed teeth, etc. Owing to the long period of incubation and to the protracted stage of infectivity, an outbreak of mumps is very difficult to control and leads to a serious loss of school attendance.

Whooping Cough.

Twenty-one intimations of whooping cough affecting children attending the Infants' Departments enabled their homes to be visited and instructions given as to the need for care in management in order to prevent the occurrence of serious complications. In only very few instances did it appear probable that the disease was spread by school influence.

Ringworm.

Eighteen cases of scalp ringworm were detected at the various schools during the last six months of the year; in one department alone I was upon one of my visits shewn eight children with scurfy and bald patches on the scalp which both clinically and microscopically proved to be due to ringworm. These children were apparently all infected by one of their number who suffered from diffuse ringworm of the scalp, the nature of the case having been overlooked by the parent owing to the excessive scurfiness of the scalp. These children were all excluded from attendance, and those only re-admitted who upon careful microscopical examination had been found to be free from contagion.

Itch.

Cases of this contagious disease have been detected upon several occasions as the result of intimations from the Head Teachers. In two instances all the children of a family have had to be excluded owing to their having contracted the disease.

Mentally Defective Children.

Good work continues to be carried out at the Special Centre by Miss Wells, the Head Teacher, and her assistant.

On 1st January, 1908, the names of twenty-five children were on the books; during the year, there were twenty admissions and three re-admissions, eleven children left, thirty-seven remaining in attendance at the end of the year.

Of the eleven who left three were nearing or had attained the age of sixteen; two were girls who are living at home, the other a boy assists his father in the latter's business. All three children had been in attendance at the Centre since the opening of the latter in September, 1906, but had not made very much progress, possibly owing to the late period at which they entered. One a boy aged fifteen, who left late in December, has been re-admitted since the commencement of the present year, and will remain until work suitable to his attainments can be found for him. Two after a few weeks left on being entered by their guardians at a private school, but one has since been re-admitted. Two have left the neighbourhood, their families having moved out of the Borough. One under the care of the Rochford Guardians was withdrawn with a view to his being sent to a suitable home. Two were transferred to ordinary elementary schools, having made such progress during their stay at the Centre that their educational attainments enabled them to enter Standard I; they continue to do well in their new environment, and there is every reason to hope that they will be able to mix and compete on more equal terms with their contemporaries when the time comes for them to earn their own living than if they had not received some education.

During September I examined each of the children who were then in attendance. As regards their educational attainments, five showed very marked improvement, three moderate improvement, eight slight improvement, and six little or no improvement. Of the fourteen who showed slight improvement as regards their educational attainments, it may be said that their manual work had in many cases very much improved and moreover their gait, speech, general appearance, capacity for attention, powers of observation, condition as to nervousness, moral qualities, etc., all showed some change for the better in the cases where such defects had been noted at the previous examination.

The formation of a second class at the school enables some classification of the pupils to be made, and justifies the hope that the results hitherto attained may be surpassed in the future.

One point which specially deserves mention was the want of personal cleanliness so noticeable in many of the children. No fewer than five out of the twenty-two children who had been in attendance for over a year were noted at the time of my examination to be dirty. It is a matter of special importance that children of defective mental development should be taught habits of personal cleanliness, and an effort is being made to ensure in the future greater care being taken by the parents in this respect.

MAXIMUM THERMOMETER.

Month	Mean Deg.	Highest Deg.	Date.	Lowest Deg.	Date.
January ...	41	53	28th	32	3rd
February ...	47	52	7th & 13th	42	5th & 29th
March ...	46	55	9th	40	1st, 2nd, 3rd
April ...	49	57	30th	42	25th
May ...	64	73	3rd	50	4th
June ...	66	75	2nd & 11th	62	8th
July ...	69	79	31st	58	14th
August ...	65	82	5th	56	24th
September ...	65	74	9th & 20th	56	5th
October ...	63	75	4th	46	25th
November ...	51	63	1st	46	8th
December ...	44	52	1st	27	30th & 31st

MINIMUM THERMOMETER.

Month.	Mean Deg.	Highest Deg.	Date.	Lowest Deg.	Date.
January ...	33	45	19th	22	11th
February ...	34	47	22nd	27	2nd
March ...	35	43	9th	29	15th & 19th
April ...	37	45	30th	30	24th
May ...	47	53	20th & 30th	41	5th
June ...	51	58	2nd	41	7th
July ...	56	62	14th & 31st	50	21st
August ...	54	60	4th	46	12th
September ...	46	59	29th & 30th	41	12th, 13th, 14th
October ...	49	56	5th & 9th	34	25th
November ...	43	49	13th	36	20th
December ...	36	45	14th	18	30th

BAROMETER.

Month.	Highest Reading.	Date.	Lowest Reading.	Date.
January ...	30 - 35	21st	28 - 75	8th
February ...	30 - 50	5th & 7th	29 - 05	29th
March ...	30 - 05	14th & 15th	29 - 10	1st, 2nd, 10th
April ...	30 - 15	7th	29 - 20	24th
May ...	30 - 35	28th	29 - 30	6th
June	30 - 25	25th, 26th, 27th	29 - 60	14th, 16th, 17th
July ...	30 - 30	29th	29 - 35	17th
August ...	30 - 20	3rd	29 - 35	28th
September ...	30 - 15	5th	28 - 85	26th
October ...	30 - 25	22nd	29 - 80	26th & 27th
November ...	30 - 20	30th	29 - 60	23rd
December ...	30 - 20	2nd, 4th, 22nd	28 - 65	11th

RAINFALL.

Month.	Total Rainfall Inches.	Quarterly Rainfall.	Highest Rainfall Inches	Date
January ...	. 83	3 - 75	- 45	7th
February ...	1 - 27		- 24	16th
March ...	1 - 65		- 52	25th
April ...	2 - 39	4 - 78	- 76	23rd
May ...	1 - 34		- 57	29th
June ...	1 - 05		- 62	1st
July ...	3 - 00	6 - 01	1 - 20	12th
August ...	1 - 94		- 60	23rd
September ...	1 - 07		- 69	3rd
October ...	1 - 28	4 - 15	- 51	16th
November ...	- 98		- 44	21st
December ...	1 - 89		- 45	30th

WIND.

(Days of Prevalence in each month of the Year.)

Month.	N	S	E	W	N E	S W	N W	S E	W S W	S W W	W N W
January	1	2	2	5	6	7	4	4			
February			1	10		10	7	1			
March	3	4	2	5	4	5	7	1			
April	7		3	9	4	2	3	1	1		
May	1	2	2	9	4	9	1	3			
June	10	1	1	2	4	6	3	3			
July	6	1		3	4	9	5	2	1		
August	4	3		3	4	7	10				
September	1	2	3	9	1	6	5	2		1	
October	4	3	11	3	2	1	1	6			
November	3	2	3	7	5	6	2	1			1
December		7	2	7	4	3	2	6			

TABLE I.

Vital Statistics of Whole District during 1908 and previous Years.

Year.	Population estimated to middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				Total deaths in Public Institutions in the District.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NET DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
				Under 1 Year of Age.		At all Ages.						
		Number.	Rate.*	Number.	Rate per 1,000 Births registered	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1898	22,583	603	26·70	103	170·81	350	15·49	34	39	18	329	14·56
1899	24,710	657	26·58	121	184·17	400	16·1	23	29	13	384	15·54
1900	27,721	739	26·62	135	182·40	416	14·64	34	37	21	400	14·44
1901	29,793	781	26·21	140	179·25	507	17·01	55	23	28	502	16·84
1902	33,537	839	25·01	84	100·11	439	13·09	53	22	29	446	13·29
1903	37,283	935	25·07	111	118·71	448	12·01	33	22	17	443	11·88
1904	41,944	1,007	24.01	180	178·74	592	14·11	35	26	30	596	14·20
1905	46,380	1,060	22·85	126	118·86	508	10·95	27	19	25	514	11·08
1906	50,302	1,095	21·76	154	140·64	578	11·49	35	24	39	593	11·78
1907	53,283	1,042	19·38	98	94·05	564	10·59	37	26	46	584	10·97
Averages for years 1898-1907.	36,753	875	23·80	125	142·95	480	13·06	36	26	26	479	13.03
1908	57,399	1,098	19·12	101	93·62	519	9·04	57	20	40	539	9·39

*Rates in Columns 4, 8 and 13 calculated per 1,000 of estimated population.

I. Institutions within the District receiving sick and infirm persons from outside the District.	II. Institutions outside the District receiving sick and infirm persons from the District.	III. Other Institutions, the deaths in which have been distributed among the several localities in the District.
Southend Victoria Hospital Nazareth House St. Mary's Convent The Glen Alexandra Road Nursing Home	Union Workhouse, Rochford Mount Vernon Hospital, Hampstead Freidenheim Hospital, Hampstead	Southend Victoria Hospital Borough Sanatorium Nazareth House Various Nursing Homes

Area of District in Acres (exclusive of area covered by water). 5,172

Total Population at all ages	28,857	At Census of 1901.
No. of Inhabited Houses ..	5,417	
Average No. of persons per house	5·3	

TABLE III.

Cases of Infectious Disease notified during the Year 1908.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.							TOTAL CASES NOTIFIED IN EACH LOCALITY.					NO. OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.					
	At all Ages.	Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards	1 St. John's	2 St. Mary's	3 (H) St. Alban's	4 All Saints	5 Southchurch	1 St. John's	2 St. Mary's	3 St. Alban's	4 All Saints	5 Southchurch	8 Tot'lcases removed to Hospital.
Diphtheria (including Membranous croup)	79		18	53	6	2		17	23	17	15	7	11	19	15	13	7	65
Erysipelas	18			1	1	15	1	4	1	3	8	2						
Scarlet Fever ...	170	2	37	106	17	8		43	31	37	53	6	39	24	33	39	3	138
Enteric Fever ...	26		2	6	5	13		9	6	3	6	2	7	4	1	6	2	20
Puerperal Fever ...	2					2			2									
Phthisis	6				1	5		1	3		2							
Totals ..	301	2	57	166	30	45	1	74	66	60	84	17	57	47	49	58	12	223

TABLE IV.

Causes of, and Ages at, Death during Year 1908.

CAUSES OF DEATH.	Deaths at the subjoined ages of "Residents," whether occurring in or beyond the District.							Deaths at all ages of "Residents" belonging to Localities, whether occurring in or beyond the District.					Total Deaths whether of "Residents" or "Non-Residents" in Public Institutions in the District.
	All Ages.	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards	St. John's	St. Mary's	St. Alban's	All Saints	South-church	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Measles	2	...	2		...	...	...	...	...	1	1	..	...
Whooping Cough	3	2	1	...	..	...	.	2	...	...	...	1	...
Diphtheria (including Membranous Croup)	9	...	4	5		...	...	1	3	2	1	2	7
Enteric Fever	3	...	...	...	1	2	..	1	1	...	1	...	2
Epidemic Influenza	12	1	1	1	...	5	4	4	3	2	1	2	1
Diarrhœa	21	19	2	...	...	...	...	4	3	5	7	2	...
Enteritis	9	6	..	1	...	2	...	2	2	...	3	2	2
Puerperal Fever	2	...	...	...	...	2	...	...	2	...	...	...	...
Erysipelas	1	...	...	...	...	...	1	...	...	...	1	...	...
Phthisis, (Pulmonary Tuberculosis)	61	..	...	4	12	44	1	19	14	12	10	6	1
Other Tuberculous diseases .	14	4	4	5	...	1	..	.	6	2	6	...	3
Cancer, malignant disease ..	32	...	...	...	4	14	14	13	9	7	3	...	2
Bronchitis	40	8	2	1	..	12	17	10	6	6	14	4	3
Pneumonia	22	4	1	1	1	10	5	5	3	5	5	4	2
Pleurisy	1	...	..	...	...	1	...	...	...	1	..	...	...
Other diseases of Respiratory organs	11	1	2	2	...	2	4	6	4	1	...	...	..
Alcoholism, Cirrhosis of liver ..	13	...	...	...	...	11	2	6	1	2	3	1	. .
Venereal diseases ..	1	1	..	...	...	.	...	...	1	...	...	...	...
Premature birth	18	18	...	...	...	..	...	1	11	3	2	1	...
Diseases and accidents of parturition	2	...	...	...	...	2	...	...	1	1	...	...	...
Heart diseases	42	2	...	1	1	18	20	13	11	12	2	4	4
Accidents	13	2	...	..	1	10	...	8	4	...	...	1	3
Suicides	3	...	...	.	1	2	...	2	...	1	...	...	2
All other causes	204	33	4	6	5	64	92	70	43	36	41	14	25
All causes	539	101	23	27	26	202	160	167	128	99	101	44	57

TABLE V.

Infantile Mortality During the Year 1908.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 1 Month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under 1 Year
All Causes Certified.	29	9	5	5	39	15	5	10	9	3	4		3	4	.	1	93
All Causes Uncertified	2		1	...	3	1	1	1	..	...		1	...	...	1	.	8
Common Infectious Diseases: —																	
Whooping Cough	..	...		...		1	...	...	..	...		...	...	1	...		2
Diarrhœal Diseases :—																	
Diarrhœa, all forms	...	...	..		...	1	3	5	3	1	2		2	1	1	...	19
Enteritis, Muco-enteritis, Gastro-enteritis	...	...	.	1	1	..	1	1	...	...	...		...	...		...	3
Gastritis, Gastro-intestinal Catarrh ...	...	...	...			2	...		1	..	...		...	...	...	.	3
Wasting Diseases :—																	
Premature birth	13	1	1	2	17	1	..	..	...	...	...	...	. .		.		18
Congenital Defects	2	1	..	2	5	1	...	...	..	1	...	...	...	...	...	...	7
Injury at Birth	...	...	1	...	1	...	...	...	.	...	...	...	..			...	1
Atrophy, Debility, Marasmus	3	4	...	...	7	2	...	1	1	...	...	...	...	...	.	...	11
Tuberculous Diseases :—																	
Tuberculous Peritonitis : Tabes Mesenterica	..	...	...	...	...	...	...	...	...	...	2	...	...	..	...	..	2
Other Tuberculous Diseases	...	...	...	.	...	...	...	...	2	...	...		.	...		.	2
Other Causes : —																	
Syphilis	...	...	...	...	...	1	...	.	...	...	...	...	...	.	..	...	1
Convulsions	3	...	...	...	3	2	1	2	1	1	...	...	...	1	...	..	11
Bronchitis	...	1	3	...	4	1	1	...	1	..	...	...	1	...	..	...	8
Pneumonia	...	...	...	...	...	1	..	1		...	...	1	...	1	...	..	4
Suffocation, overlying	...	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	2
Other Causes	1	1	1	...	3	3	...	...	...	...	...	...	...		...	1	7
	22	9	6	5	42	16	6	11	9	3	4	1	3	4	1	1	101

Population (estimated to middle of 1908) 57399.

Births in the year—Legitimate 1070.	Deaths in the year of Legitimate Infants 93.
,, ,, ,, Illegitimate 28.	,, ,, ,, Illegitimate Infants 8.

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